Committee Meeting

of

SENATE SELECT COMMITTEE

ASSEMBLY TELECOMMUNICATIONS AND UTILITIES COMMITTEE

"The Committees will receive testimony from invited guests on the affordability of energy in New Jersey"

LOCATION: Committee Room 4
State House Annex
Trenton, New Jersey

DATE: March 28, 2025
10:00 a.m.

MEMBERS OF COMMITTEE PRESENT:

Senator Paul A. Sarlo, Chair
Senator Linda R. Greenstein, Vice Chair
Senator John J. Burzichelli
Senator Nilsa I. Cruz-Perez
Senator M. Teresa Ruiz
Senator Bob Smith
Senator Andrew Zwicker
Senator Anthony M. Bucco
Senator Michael L. Testa, Jr.

Assemblyman Wayne P. DeAngelo, Chair
Assemblyman James J. Kennedy, Vice Chair
Assemblyman David Bailey, Jr.
Assemblyman Julio Marenco
Assemblywoman Tennille R. McCoy
Assemblyman Christian E. Barranco
Assemblyman Paul Kanitra
Assemblyman Alex Sauickie

ALSO PRESENT:

Miranda Crowley
Andrew Edmonson
Kelly E. Monahan
Steve Z. Weng
Office of Legislative Services
Committee Aides

Michael Horgan
Senate Majority
Committee Aide

John Gorman
Senate Republican
Committee Aide

Erin K. Reagan
Assembly Majority
Committee Aide

Kevin Logan
Assembly Republican
Committee Aide

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SENATOR PAUL A. SARLO (Chair): Good morning, everybody.

We'll give everybody a chance to please find a seat.

As always, this is a large committee with a lot of staff, and there's a lot of interested parties here. So, please be respectful of one another. I know it's a Friday -- actually, it's a great turnout for a Friday, so the next one we're going to schedule on a Sunday; we'll bring you all back on a Sunday.

(laughter)

SENATOR SARLO: But, thank you for all taking time to come down today on a very important issue.

Before we go any further, this is the Senate Select Committee and Assembly Telecommunications and Utilities Committee -- Joint Meeting -- of Friday, March 28, 2025.

Can I have a roll call, please?

MS. CROWLEY: This is a roll call for the Senate Select Committee.

Chairman Sarlo.

SENATOR SARLO: Present.

MS. CROWLEY: Is present.

Vice Chair Greenstein.

SENATOR LINDA R. GREENSTEIN (Vice Chair): Present.

MS. CROWLEY: Is present.

Senator Ruiz.

SENATOR RUIZ: Present.

MS. CROWLEY: Is present.

Senator Cruz-Perez.

SENATOR CRUZ-PEREZ: Present.

MS. CROWLEY: Is present.

Senator Burzichelli.

UNIDENTIFIED SPEAKER: John, are you here?

SENATOR BURZICHELLI: Yes--

SENATOR CRUZ-PEREZ: He is here -- I think he's here.

(laughter)

MS. CROWLEY: Is present.

Senator Smith. (no response)

Is present.

Senator Zwicker.

SENATOR ZWICKER: Here.

MS. CROWLEY: Is present.

Senator Bucco.

SENATOR BUCCO: Here.

MS. CROWLEY: Is present.

Senator Testa.

SENATOR TESTA: Here.

MS. CROWLEY: Is present.

Chairman Sarlo, you have a quorum.

This is a roll call for the Assembly Telecommunications and Utilities Committee.

Assemblyman Kanitra.

ASSEMBLYMAN KANITRA: Here.

MS. CROWLEY: Is present.

Assemblyman Sauickie.

ASSEMBLYMAN SAUICKIE: Here.

MS. CROWLEY: Is present.

Assemblyman Barranco.

ASSEMBLYMAN BARRANCO: Here.

MS. CROWLEY: Is present.

Assemblyman Marenco.

ASSEMBLYMAN MARENCO: Present.

MS. CROWLEY: Is present.

Assemblyman Bailey.

ASSEMBLYMAN BAILEY: Present.

MS. CROWLEY: Is present.

Assemblywoman McCoy.

ASSEMBLYWOMAN McCOY: Present.

MS. CROWLEY: Is present.

Vice Chair Kennedy.

UNIDENTIFIED SPEAKER: He's on his way.

MS. CROWLEY: Vice Chair Kennedy is on his way.

Assemblyman DeAngelo.

ASSEMBLYMAN WAYNE P. DeANGELO (Chair): Here.

MS. CROWLEY: Is present.

Chairman DeAngelo, you have a quorum.

SENATOR SARLO: I'm going to just set a few of the guidelines and protocols, and then I'm going to turn it over.

I have the honor to Co-Chair this with my good friend, Wayne DeAngelo. I'm going to turn it over to him in a minute for some opening remarks on the topics that we are about to cover here. These are *very* important topics that we're about to cover today.

To the members: I know this is something of utmost importance to all of us and our constituencies. Let's please be respectful of one another. We are going to bring up-- We have four different -- four different -- individuals testifying today. After they are done testifying, we will permit questions. We're going to hold everybody to 10 minutes; after 10 minutes, we're going to respectfully request you to move on, and we're going to go to somebody else. You know, fair representation on both sides. And, you have a chance-- We will bring you back a second chance.

But, it is-- The day is long, and we want to hear from these folks. We are going to be meeting again, so let's just be respectful of everybody's time.

With that being said, I am going to turn it over to my Co-Chair, Wayne DeAngelo, for some opening remarks on the topics of the day.

ASSEMBLYMAN DeANGELO: Thank you, Senator, and good morning, everyone.

Thank you for coming out this morning to this joint hearing so we can kind of work to resolve New Jersey's energy matters.

So, we know New Jersey needs power. And, we know that we need it quickly. And, we have to do short-term, mid-term, and long-term plans towards that. Most people estimate that in the next 10-15 years, we're going to need double the amount of power that we're utilizing and generating now in the State of New Jersey.

I am a person who doesn't like all my eggs in one basket; I like to make sure that we have a well-diversified energy generation portfolio. We made sure that the professionals and experts who are coming here to testify before us can answer some of our questions. But, what I would ask of the legislators as we go forward: Let's get all the information before we start dropping bills -- hopefully not already written--

SENATOR SARLO: (laughter)

ASSEMBLYMAN DeANGELO: And, that we can put together a good plan. Because as we're talking to the public and to the end user, the residents don't necessarily understand all the complexities of this. They don't understand that we are in a 13-state grid. They don't understand that that grid needs power. And, that on a hot summer day, we're reaching points of concern. They don't understand the amount of time that it takes to build generating stations -- whether it's nuclear; whether it's gas; whether it's solar fields, or whatever; offshore wind; or battery storage. They don't understand that complexity; they don't understand the varying rates throughout the day. That's what we have to try to make sure that we give them the best bang for their bucks as we go forward.

So, you can just start out, Senator, and you can do the first introduction.

SENATOR SARLO: Thank you.

OK, if it's OK with the members, I will call up Christine Guhl-Sadovy; President, New Jersey State Board of Public Utilities for her remarks.

Please introduce the folks who you have assembled with you, Commissioner.

And, then, I will open it up to--

ASSEMBLYMAN DeANGELO: Pledge of Allegiance.

SENATOR SARLO: We're going to please rise for the Pledge of Allegiance.

(Pledge of Allegiance is recited)

C H R I S T I N E G U H L - S A D O V Y: Good morning.

Good morning; thank you so much for this opportunity, Chairmen.

With me today we have our Executive Director, Bob Brabston and our Senior Policy Advisor, Dr. Caroline (indiscernible) from the Board of Public Utilities.

I really appreciate this opportunity to talk with you--

SENATOR SARLO: Hold on--

MS. GUHL-SADOVY: Can you hear me?

SENATOR SARLO: Can I ask you guys to come to the front row?

MS. GUHL-SADOVY: Of course.

SENATOR SARLO: We don't bite up here; we're not evil. We're--

(laughter)

MS. GUHL-SADOVY: I mean, that remains to be seen, Chairman.

SENATOR SARLO: We all showered this morning, we look good.

Please.

ASSEMBLYMAN DeANGELO: I think they were so far back, I thought they were on the other side of the Delaware River.

MS. GUHL-SAVODY: (laughter)

No, we're on the right side of the Delaware here.

SENATOR SARLO: Thank you.

MS. GUHL-SADOVY: OK, there we go. A little cozier this way.

So, I really appreciate this opportunity to talk with all of you today.

I know you have my testimony, which is quite long, so I'm not going to read it word for word, which I think we'll all appreciate. But, I just want to talk about some of the very important issues that we're facing here.

So, I want to start off, just briefly, with an overview. These are very complicated issues, as I know you all know, and they're not simple solutions. But, I want to just go over, first, the components of your electric bill -- which I think is sometimes confusing for people to understand.

So, it's two buckets. Your electric bill -- there's the generation/supply side, and the distribution side. It's rough -- the distribution side is roughly 39%. I know you have some graphs in your packet, so it's different based on different utilities. But, that is the portion of the bill that is regulated by the Board of Public Utilities. The Board of Public Utilities doesn't regulate the supply side of the bill; we have no authority over those charges. And, your electric utility doesn't make any profit on the supply charges. The distribution side is really where the infrastructure that gets the electricity to your home or business -- that is the part that the BPU regulates.

Electricity is a commodity. It's not that different from gasoline or eggs. When demand is high and supply is limited, prices go up. As you mentioned, Chairman DeAngelo, New Jersey is part of the PJM grid -- the "J" in PJM stands for "Jersey." It is a 13-state grid, and PJM manages the transmission system to ensure that there's enough electricity at any given time for all of the customers in the PJM region. And, really, for the most part, this system works well. New Jersey imports electricity from the PJM grid from generators in states like Ohio, Pennsylvania, and Virginia. PJM oversees what's called the capacity market, which helps determine the price of electricity the ratepayers pay. And, then, again, that's on the generation side.

There are certainly reliability benefits to being in a regional grid. But, as we have seen, there are also costs. I am really glad that PJM is here to provide additional insight into these issues.

So, in February, the Board announced the results of the basic generation service auction, which concluded with approximately 17-20% increases on the average electric bill. These increases are of a significant concern to me personally. I am a ratepayer; my parents are ratepayers. So, we take this *really* seriously -- all of us at the BPU. No one wants to see these kinds of impacts on ratepayers, especially at a time when there's so much uncertainty around the nation's economy.

And, it shouldn't give anyone comfort here, but it's important to know that New Jersey is not alone. Demand is rising across the country, and in the PJM region, many states are seeing an increase related to these generation costs. Pennsylvania is 10-20%; Maryland, up to 24%. And, even Ohio is facing increases about 10-15%. We are committed, at the Board

of Public Utilities, to making sure that customers have access to reliable and affordable electricity.

It's important to point out what the driving factors of these generation-related increases are. Yes, as I know you will hear from PJM, demand is on the rise. The projected demand has increased dramatically just in the last couple of years. But, another driving factor is the PJM market rules, which have created an artificial scarcity that caused prices to skyrocket. PJM's rules were the driving factor behind these increases that we are seeing coming June.

Last year's capacity auction results cost New Jersey consumers nearly $1 billion. Recognizing these challenges, the BPU has actively worked to propose solutions to help mitigate rising prices. And, I want to point out that we have been working on these issues -- some of these issues -- at the BPU since before the capacity auction results. Our staff and all of us have been committed to ensuring that all the available generation resources in the PJM capacity market are accounted for. Because if resource forces that are producing electricity are not being counted, that creates artificially high prices. I know that there's some detail in terms of the changes that PJM has made in my testimony; I won't go over it in detail right now, but I'm happy to answer questions on that.

But, I want to point out that the changes that PJM has made will save New Jersey ratepayers $800 million. But, they are changes that we at the BPU and that Governor Murphy has pushed PJM to make, and it was FERC -- the Federal Energy Regulatory Commission -- that directed PJM to make these changes in the upcoming capacity market. And, again, those changes *will* have a price suppression impact. But, prices are still

going up, and I know that that is a concern for everyone here -- me especially. We do not want to see further increases in these capacity prices.

We know that demand is on the rise. We know that issues like data centers in Virginia and Ohio are drawing enormous amounts of electricity from the grid, and that we are going to see an increasing demand over the next several years to 2030, compared to previous projections. So, we do need more generation. And, I know we're going to talk a little bit more about that today. But, I want to point out that clean generation in the form of solar and storage is the fastest generation to get online. There are 79 projects in the PJM queue just in New Jersey -- primarily solar and storage -- that are waiting for interconnection review to get connected to provide electricity that is so necessary for not just New Jersey but this whole region.

It's also undeniable that clean energy has helped to drive down prices. Without the PJM-wide wind and solar resources that bid in 2024's auction, clearing prices would be 60% higher, costing New Jersey ratepayers even more money in the coming year. We have to drive down prices by bringing more capacity online. I know that there are differences of opinion about what kind of capacity that should be, and I understand that, and I hope that we can talk about it. But, we know that we need more resources -- particularly large-scale resources. We had that in offshore wind. We can agree or disagree in terms of your position on offshore wind moving forward, but the fact of the matter is that thousands of megawatts of generation were going to come online in New Jersey to support New Jersey and the PJM grid between 2029 and 2032. That's generation that we need.

Uncertainty at the Federal level and in the Trump administration about bringing offshore wind to New Jersey is creating

additional need for supply. Now, we know that there are issues; we want to find solutions. And, I know that's what we're all here to do today. So, I want to talk about some of the things that we are doing at the Board of Public Utilities, not just to bring these generation resources online, but also to provide direct bill assistance to the customers who need them most.

Again, we are bringing more solar and storage resources online in New Jersey via competitive solar solicitations; via community solar; and, also, in the impending storage incentive program. Those are some of the initial actions that we're taking to get more generation into New Jersey as quickly as possible.

We are also addressing direct bill assistance in a few different ways. And, I know it's in my testimony, but I want to point out the specific things that are in there, because I think that's really important. That is a near-term solution to help customers -- direct bill assistance.

As last year, we proposed a residential energy-assistance payment. It was a 170 to $5 credit last year, in the summer, at times when bills were highest because of high usage. We are proposing that again for this year. It goes to the low- and moderate-income customers who are enrolled in the winter-termination program.

We are also looking at the Clean Energy Fund and all available resources to provide a bill credit to all residential customers. We don't know how much that's going to be yet, but we are working to get as many financial resources as possible together to provide that bill credit via the Clean Energy Fund and the Solar Alternative Compliance Payment. We also just released a straw proposal to expand the Universal Service Fund. I

want to talk a little bit about that, because, unfortunately, I think there's been a lot of misinformation out there about what that is.

At our last board meeting, we received a report on affordability, primarily geared towards low- and moderate-income customers. We did not adopt the recommendations; we merely accepted the report. There were two recommendations in the report that we did move forward with -- that was expanding the Universal Service Fund. That's the existing energy-assistance program for residents and for customers who are at or below 60% of the state median income. For a family of four, that's about $92,000 a year. The proposal was to expand the available bill credit for those customers primarily focused on the higher end of the income spectrum because there are fewer resources available to those customers. We want to make sure that that bill credit and the assistance is helping to reduce some of these incoming additional costs. So, we expand the Universal Service Fund amount, and we also propose that the utilities that have the greatest access to customers are required to do enrollment and meet certain enrollment targets.

In addition, we're preparing our next community solar allocation, which provides a minimum of 15% bill credit to any customer who enrolls and subscribes to a community solar project. It's not based on income; it's available to any customer. So, these are some of the main things that we're doing to provide immediate relief to drive customers' bills down at a time where we know that they need it most.

Now, again, we know we need more generation, and I just want to close with this. It's really important to recognize that while new generation is critical, all new generation comes at a cost. If it's solar, storage,

wind, or gas, new generation costs money. I know that there's a proposal out that's considering re-regulation. This is a complicated issue, and I encourage a lot of dialogue around it before moving anything forward. But, what re-regulation means -- and, it's really important that we're transparent about that -- is utility ratepayers paying for new large-scale generation -- probably in the form of fossil fuel generation and the associated natural gas pipelines. That may be the decision that moves forward, but I think it's really important that we understand and recognize that all new generation is going to come at a cost.

Thank you.

SENATOR SARLO: I call upon Co-Chair Wayne DeAngelo.

ASSEMBLYMAN DeANGELO: Thank you, Madam President.

And, again, just for the record, I'm that individual who dropped that bill for -- talking about the issue you're just talking about.

Why did I do that? I think when we are at a point, as we're talking energy and the concerns that we all have, we have to put everything on the table. That doesn't mean that's going to go forward. But, as I'm looking at the forecast of bills that are out there, there are those who would like us to move from natural gas heating in the homes to heat pumps. That changes-- Just so everyone knows, 75% of our homes in New Jersey are heated with natural gas; 65% of our businesses are heated with natural gas. That's taken out and you're adding another 50-amp, 240-volt circuit to your power load in your residence. Those who want to get rid of electric appliances -- your stove, getting rid of a gas stove; if you have gas heat, more than likely

you're going to have a gas stove. And, that's another 50-amp, 240-volt circuit. If you have that, if you no longer have a gas heater for your water heater, that's going to be electric; that's a 30-amp, 240-volt circuit.

If you have an electric dryer for your clothes -- you're not hanging them outside -- you're moving either to a 30- or another 50-amp, 240-volt circuit. A four-bedroom colonial house in the State of New Jersey, the average one is going to have a 200-amp service. When you go past that you get into more of the utility size, and you have to move to a CT cabinet -- it's not a nice, small meter on the sides of your house. Residential ranch homes have a 100-amp, 240-volt circuit.

I say that all because we haven't even talked about EV charging stations yet. And, depending on what level of chargers you have, it's either going to be a 50-amp, 240-volt circuit, or quick charges are 100-amp, 240-volt -- maybe 480-volt -- that's supplying it. So, we see the demands. We see the increased demands that we're going to have, and we haven't even talked about our data centers which are popping up all over the place.

So, that's the reason why I put that bill. We have to really think outside the box as we're talking about generation, and hopefully it's a well thought out, long process putting all the best minds that we have together.

I do have a couple questions that, if you can -- and, write them down, just make them simple; hopefully not too complex.

So, can you just explain how the BPU interacts with PJM on the load forecast that we have in New Jersey as they're trying to put

together the forecast for what they're going to need? That would be the first question.

I know from being in the industry that you don't just build a powerhouse and then do the distribution and transmission lines; you have to have the infrastructure there first. So-- and, it's most effective that way.

Madam President, if you can talk a little bit about your role, because you deal with the transmission and distribution lines, how you feel we are in the State of New Jersey on being prepared for the additional load forecast that we all see coming in the next 10 years. You've started to explain about some of the relief programs -- if you could just, please, maybe electronically provide the board -- the Committee here -- so we can share that with our residents. Because, again, you talked about them, but we don't know how they're going to play a direct role.

And, we're always talking about generation. If you can just touch on, briefly, on what you're doing for energy efficiency so that if you're in an area, you get your electric bill -- we want to chart using less. So, if you can help, we can work with commercial, and then deal with the residences, so that we can reduce the amount that we need so that it's going to help our grid, it's going to help our environment, the less we use.

And, have you seen or have you been told of any interconnect problems with our utility-size solar, battery, whatever -- hydro -- whatever generation we have, interconnect problems with the grids? Because, that's some of the feedback that I'm getting.

And, I'll be asking that same question to PJM.

Thank you.

MS. GUHL-SADOVY: Sure; OK.

So, I'll-- Actually, I'll start with the first one, I think, that you mentioned, which was our engagement with PJM around modeling and projections.

So, the utilities provide PJM with interconnection. They're basically their load and supply forecasting. And, we work with PJM at a staff-to-staff level, and also via OPSI -- which is the Organization of PJM States -- to ensure that we are -- we have visibility into how they're planning for those things.

But, I think, as you know, if you have not seen -- and, I think we submitted it -- we do have some concerns around the modeling for capacity and load projections going forward. It's the same modeling that was used for the last auction, the BRA auction. And, so, we do have some concerns with that.

We want to ensure, always, that we are appropriately capturing the available capacity. Because any time that -- whether it's modeling or a market rule that doesn't capture all of the capacity, all of the generation -- whether it's a solar farm; whether it's a gas plant; or a nuclear plant -- if they're producing electricity, providing it to the grid at any given time, we want to make sure that that's being accounted for when prices are set. Because, if it's not being accounted for, prices are going to go up artificially. So, that's a big part of it, is ensuring that that modeling is reflecting the accurate projections for capacity.

In terms of our own transmission and distribution, I am going to actually put that together with the interconnection question, if you don't mind, because I do want to go back to talk about energy efficiency. So, the -- as part of the Clean Energy Act, we at the BPU transitioned out of the

energy efficiency -- a lot of the energy efficiency programs -- to the utilities. Some are still done through the BPU and the Clean Energy Program, but we have transitioned a lot of those programs to the utilities. We do a three-year cycle -- it's called the triennium; that's not really important.

But, in the first three-year cycle -- which is what we have the results for -- the first three-year cycle has already saved $600 million for the customers participating. That's just the first analysis of the results, so those measures that were installed -- whether it's the smart thermostat, or a new high-efficient furnace -- those are going to continue to provide savings. The $600 million is just the *initial* analysis of the savings from those programs. We're now in the second triennium, moving forward for planning to the third triennium. So, energy efficiency is a really important part of providing direct -- when we have two customers' bills, because it lowers their usage.

It also -- because of the requirements set for reducing electricity through the Clean Energy Act -- it also reduces overall demand. It was a 2% reduction on the electric side; .75% on the gas side. And, that helps to reduce demand, which ultimately has a downward pressure on prices. So, that's-- I think that's kind of the one-two punch of energy efficiency.

Let's talk about interconnection issues and the distribution system. So, we have a grid modernization proceeding going on right now. We're actually finalizing the first set of grid modernization rules to help address some of the issues I think you're referring to, Chairman. We certainly have -- have heard from, primarily, the solar industry, but also load-bearing entities; large projects; data centers; and things like that, that there are challenges -- in some of the utilities more than others -- when it comes to

interconnection. And, sometimes, it takes a long time to get applications reviewed, and we understand that that's a challenge. That's the, really, the first part of the interconnection rules that we have proposed and that we're finalizing. They're focused on things like transparency; capacity-hosting maps so that developers can take a look at what capacity is available so that they can plan interconnection; making sure there's uniformity in the review process; in the cost of applications for interconnection from the developers. That was the first round of those rules. We're still in the process of preparing the second round, and that really addresses some of the interconnection challenges in terms of the necessary infrastructure upgrades.

We understand if you're a solar developer; if you're a data center developer; if you have a large project, like a movie studio, that wants to come into a service territory, and there's not enough capacity, that's a challenge. We do not want to be preventing economic development from happening in any part of the state because of a lack of infrastructure. The fact of the matter is that infrastructure upgrades cost money. So, the way that it is currently set up, if you're a solar project developer and you want to build a new project in a service territory and it needs interconnection upgrades, that infrastructure -- the cost of that infrastructure -- is on you.

There's only two options if you want to upgrade the infrastructure at this point in the utility territory: It's the utility customers are paying for it, or the developer is paying for it. So, we are really serious about making sure that any infrastructure upgrades that are done are being planned appropriately. We don't want to see the utilities unnecessarily doing work on the infrastructure that's not intended for reliability and resilience and planning for economic growth. But, we want to make sure that they are

-- that they are planning, and working with the municipalities and the counties to make sure that the infrastructure is there when it's needed.

SENATOR SARLO: Thank you; thank you.

Folks, I'm not going to-- Now that we're one committee, so I'm not going to treat it as Senate versus Assembly, I'll just go back and forth between both sides.

So, Senator Smith, followed by whoever else is -- Assemblyman Barranco.

SENATOR SMITH: Madam President, is USEIA -- the New Jersey -- according to them, New Jersey's actual total electric load has dropped from 75.4 terawatts to 71.1 terawatts in 2023. You mentioned the projected increase -- our history has not been out-of-the-box demand in New Jersey; actually, at least recently, declining demand.

Do you actually have data center AI in the queue at BPU?

MS. GUHL-SADOVY: So, thank you, Senator.

The utilities have interconnection requests, and I know--

SENATOR SMITH: So, how do we know if any of this is true?

MS. GUHL-SADOVY: I think that's a--

SENATOR SMITH: You have all of these people bidding in the PJM auction with 10 times higher rates -- 10 times higher than last year's. And, all of them are saying -- well, *most* of them are saying, according to the energy reporters -- everyone is claiming AI is coming, data centers. They consume monstrous amounts of electricity. Is anybody checking to see that that's true?

MS. GUHL-SADOVY: Yes, I think that's a great point.

So, we have actually asked utilities for their interconnection queue, because we know there are projects waiting to come online -- not just on the load side, but also on the capacity side as well. And, I think PJM is going to talk more about how they analyze--

SENATOR SMITH: No question; I'm going to ask the question.

But, you're the on-the-ground person for New Jersey. *You*; BPU. Are you anticipating this tremendous number of data centers -- AI data centers in New Jersey? Do you have any actual proof that's going to happen?

MS. GUHL-SADOVY: So, we-- I mean, the utilities do get interconnection requests, and, so, we have asked for them to provide us details for all of the interconnection. In terms of data centers that may be asking for multiple interconnection applications in different regions, that's something that we absolutely need to get more transparency for.

SENATOR SMITH: So, you don't know the answer.

MS. GUHL-SADOVY: That's fair. We don't know exactly how many.

SENATOR SMITH: That's an OK answer. That's the answer: You don't know.

And, by the way, we had PJM at another hearing, and trying to find out how they do this auction, and who is bidding what, and what's involved. It's like -- well, it's not; I was going to say that it's worse than our national security, but I can't say that anymore.

(laughter)

SENATOR SMITH: It is absolutely brutal getting information from PJM.

A couple more. If half of those 79 projects that are in the queue from New Jersey -- and have been in the queue for a while -- if even half of them are approved, where would we stand in terms of energy generation in the state?

MS. GUHL-SADOVY: I'll have to -- I don't know exactly how many megawatts those 79 projects are, but we can get you that information.

SENATOR SMITH: All right, well--

MS. GUHL-SADOVY: But, we know that any new generation, even if it's a thousand megawatts, that's going to provide a price suppression effect.

SENATOR SMITH: Do you believe there's any truth to the speculation that because of the board of managers at PJM, who seem to be very heavily fossil fuel oriented, that maybe one of the reasons that none of these interconnections is being approved is because of that bias?

I'm helping you to make friends with PJM.

MS. GUHL-SADOVY: Yes, I can feel Asim looking at me from behind me. (laughter)

So, I think it's-- It's not a secret that we at the BPU, and in New Jersey, and other states, have felt that PJM has made decisions that are -- that lean towards fossil fuel generation and the states that have large-scale fossil fuel generation.

SENATOR SMITH: Right--

MS. GUHL-SADOVY: You know, Joe Fiordaliso, when he was president--

SENATOR SMITH: Do you have any opinion why PJM is just fine at not including all the energy sources in the auction, like storage and other sections of the economy?

MS. GUHL-SADOVY: So, that's-- That's actually one of the things that we advocated for them to change, making sure that the renewable energy in particular -- that's the renewable must-offer rule that I referenced in my written testimony -- making sure that those generation resources are bid into the auction. Because, if they're not bidding, the prices are being driven up.

SENATOR SMITH: Right, it's supply and demand.

MS. GUHL-SADOVY: That's absolutely right--

SENATOR SMITH: But, we've had these 79 applications in the queue -- literally for years -- nothing happens with PJM. And, so, you have all these private sector energy developers ready to go, and we have PJM blocking it.

You may remember -- God bless his soul -- Joe Fiordaliso, who speculated that maybe it's time for New Jersey to become its own ISO, or maybe ally with another state so that we -- we are a net importer of electricity, so we've got to have some friends with electricity, but maybe we hook up with another state and get out of PJM, because it's not doing anything for New Jersey. What do you think?

MS. GUHL-SADOVY: So--

SENATOR SMITH: What happened to the idea of forming our own ISO?

MS. GUHL-SADOVY: As you pointed out, we are importing electricity, and we -- from just a technical standpoint -- we can't

produce all our own electricity right now. So, that makes it, from an engineer -- I'm not an engineer -- but from an engineering and technical standpoint, it would be impossible for New Jersey to just go it alone. And, there are some real--

SENATOR SMITH: No, we'd have to get at least one other state--

MS. GUHL-SADOVY: Right, so, I think that's probably a question for Governor Shapiro. They are an exporter of electricity, and whether they would want to join just New Jersey or a smaller RTO, there's going to be some financial implications to doing that.

SENATOR SMITH: Would BPU have any objections to us forming our own ISO?

MS. GUHL-SADOVY: I think it's a very--

SENATOR SMITH: With another state--

MS. GUHL-SADOVY: I think it's a very-- That's a very complicated issue that we really need to investigate more before we would say we would be OK with it.

SENATOR SMITH: All right, got your answer.

The relief programs that you're talking about for New Jersey citizens when they get this monstrous increase in rates. How much money does it -- is required for these programs?

MS. GUHL-SADOVY: Well, so, the $175 bill credit in the Residential Energy Assistance Program, I think it was $48 million. Now, that's only applied to 280,000 customers based on income eligibility.

SENATOR SMITH: So, the other 9 million people are not going to get the help?

MS. GUHL-SADOVY: Well, there are 3.9 million customers -- residential customers -- and that's the other bill credit that we're working on, that is--

SENATOR SMITH: So, how much money is involved in that?

MS. GUHL-SADOVY: We don't know. We have the -- what's called the "solar alternative compliance payment," which I think might be part of my -- is part of my written testimony. And then, we're looking at the next year's clean energy budget to see how much money that we can -- that we can make available for a bill credit.

SENATOR SMITH: So, if the bill you're talking about doesn't pass, which changes the SREC formula to either a flat fee or -- the other version in Assembly starts even lower and decreases. If that doesn't pass, you don't have the money.

MS. GUHL-SADOVY: No, that's-- So, that's actually, looking forward, the legislation is to set an SREC price for those legacy projects so that it reduces the ratepayer impact going forward. That's the intention of the legacy SREC legislation--

SENATOR SMITH: That's where you hope to get the money.

MS. GUHL-SADOVY: No, we have-- So, because of the high trading value and the solar alternative compliance payment in the legacy program -- that program doesn't exist anymore, so this is the previous solar program. Since the Clean Energy Act, we have actually -- at the BPU, as directed by the Legislature -- we have done a new way that we incentivize solar, and so--

SENATOR SMITH: All right, let me go back to the original question. Where is the money coming from?

MS. GUHL-SADOVY: So, there is-- Because of the solar alternative compliance payment being where it is, there is funding available. I don't know off the top of my head what we will be able to provide for a bill credit but--

SENATOR SMITH: You're not suggesting another line item in the State budget?

(laughter)

MS. GUHL-SADOVY: No. But, I will have plenty of opportunity to come back during my budget hearing and talk about these issues.

SENATOR SMITH: And, I'm sure you'll be questioned about it.

MS. GUHL-SADOVY: I'm sure.

SENATOR SMITH: The--

MS. GUHL-SADOVY: I'll have a number for you.

SENATOR SARLO: Senator, you have about two minutes left.

Thank you.

SENATOR SMITH: OK.

SENATOR SARLO: I will come back to you.

SENATOR SMITH: Thank you.

What about the idea of requiring data centers, if they want to locate in New Jersey, to bring in their own energy supply?

MS. GUHL-SADOVY: So, I know-- Yes, I know there's discussion of that in the Legislature. Part of the challenge with data centers is they're very large energy users and they need electricity 24 hours a day--

SENATOR SMITH: But, why should the ratepayers be subsidizing their improvements?

MS. GUHL-SADOVY: I think that's-- I think that's a fair point.

Data centers that build anywhere in PJM are going to impact New Jersey's ratepayers.

SENATOR SMITH: All right--

MS. GUHL-SADOVY: So, if a data center builds in Ohio, Virginia -- that's what's happening right now--

SENATOR SMITH: It's going to affect our rate--

MS. GUHL-SADOVY: That's going to affect our rates.

So, we do think it's important. I think this is more of an administration-wide position: We don't want to drive data centers out of the state and the economic development (indiscernible)--

SENATOR SMITH: Nor do we.

MS. GUHL-SADOVY: Yes.

SENATOR SMITH: Data centers have tremendous economic potential. But, I don't think the ratepayers in New Jersey are going to be very happy building their electrical supply or special distribution systems. I think it's reasonable to say to data centers, "You want to come here; we'd love to have you. Bring in your own energy supply -- hopefully renewable."

But, think about it, we have Oyster Creek that's closed. You heard what happened in Pennsylvania -- Three Mile Island is being bought by Microsoft, and they're building their own energy supply, and it's not going on the ratepayers in Pennsylvania. Why are we allowing this to go on the ratepayers of New Jersey?

And, by the way, in the other 12 jurisdictions in PJM -- I've got to believe that would be very attractive to them, as well. They're going to see -- I mean, they're getting rate hikes, too; it's not just the 3.9 million people in New Jersey who are going to be suffering. There are a lot of people who are going to be suffering, and it's all to subsidize one industry that's going to make money hand over fist. They should bring in their own electric supply.

Just a comment.

MS. GUHL-SADOVY: Thank you, Senator.

SENATOR SMITH: Done.

SENATOR SARLO: Thank you.

I'm -- we're doing our best -- my Co-Chair and I are going to do the best to limit. All I'm going to ask you is just try to answer the questions as pointly and succinctly as possible--

MS. GUHL-SADOVY: Sure--

SENATOR SARLO: --without going off. We don't want to--

MS. GUHL-SADOVY: I'll avoid tangents--

SENATOR SARLO: We're just trying to keep everybody allotted to -- I don't want to repeat answers.

MS. GUHL-SADOVY: OK.

SENATOR SARLO: Assemblyman.

ASSEMBLYMAN BARRANCO: Are these on?

SENATOR SARLO: Yes, sir, they're on.

ASSEMBLYMAN BARRANCO: OK.

So, I have a simple question. You made testimony -- during your testimony, you made -- you alluded to the rules that PJM uses for their auctions.

MS. GUHL-SADOVY: Yes.

ASSEMBLYMAN BARRANCO: Do we as a State, or you as the BPU -- or whatever authority in New Jersey -- have any influence whatsoever on PJM's rules, or are they set by a group outside of New Jersey?

MS. GUHL-SADOVY: So, the Federal Energy Regulatory Commission is the regulating authority. The states don't have a vote at PJM.

ASSEMBLYMAN BARRANCO: OK; simple.

MS. GUHL-SADOVY: I hope that was a simple answer.

ASSEMBLYMAN BARRANCO: Good.

SENATOR SARLO: Senator Bucco.

SENATOR BUCCO: Thank you, Chairman.

You know, I can't help but get the impression today that we're here because, all of a sudden, the rates went up, and people are like, "Wow," you know, that it wasn't foreseen, or it couldn't have been predicted.

And, I went back last night and I started looking over the last past five years of what PJM and what the Ratepayers Advocate, and what many of my colleagues have been sounding the alarm on the Governor's misplaced Energy Masterplan, and the cost associated with it. For five years. I mean, these are newspaper articles; these are Op Eds that have been written;

experts have said the same thing, that we're just not going to be able to produce enough; that the plan is so radical that we're going to come up short.

And, we've all been saying that. You can't completely electrify the state in such a short period of time with -- for the wind industry, a failed business model. We've seen that. We've lost millions and millions of dollars in the Ørsted deal. And, now, all of a sudden what people have predicted has come home to roost. And, now, we're all running around trying to figure out what went wrong.

You said in the beginning this is a complicated process. But, isn't it pretty simple? It's about supply and demand, right? And, if we turn away investors in natural gas, and we go purely towards a renewable -- complete renewable energy that can't be sustained without massive subsidies, whether it's from the Federal government or the State -- which costs everybody money; I mean, that money doesn't come for free, right?

I just don't understand how this wasn't foreseeable and why we're here today. And, we didn't hear anything from the BPU when all of these alarms have been going off for the last five years. I mean, if you can explain that to me, I'd be happy to listen.

MS. GUHL-SADOVY: Thank you, Senator.

So, I think you will hear from PJM the projections for load growth have actually changed very significantly just in the last few years because of data center growth; because of electrification; because of manufacturing. Those projections have changed. And, actually -- as I said earlier -- even prior to this last auction result -- which was primarily driven by market rules, not just the projections for supply and demand -- the BPU *had* been advocating, and President Fiordaliso had been pushing PJM to get

through their connection applications to get more resources online. So, this was not something the BPU just started to address after the BRA.

SENATOR BUCCO: But, in a recent letter to PJM, you argued that natural gas and other fuel-burning plants are critical for winter reliability, and to keep the lights on and the prices low. Are you now changing the policy? Are we going to go back to natural gas?

MS. GUHL-SADOVY: So, I think you might be referring to the Energy Masterplan projections that actually include the modeling that was just recently released, includes maintaining the natural gas -- the necessary natural gas peaker plants so that when demand is high in the winter peaking months or the summer peaking months, we have that as an available resource.

SENATOR BUCCO: So, are we going to expand it to make up the difference? Are we going to diversify the portfolio? Or, are we just going to rely on one source?

MS. GUHL-SADOVY: So, we have -- thank you, Senator.

We have a pretty diverse portfolio now. We have 40% of our generation comes from nuclear. I think this administration has demonstrated our commitment to nuclear, and that's certainly something that we want to explore more of. I heard the reference to Oyster Creek -- I myself went to the Department of Energy to ask if Oyster Creek could be repowered. Unfortunately, the decommissioning is too far along.

So, I think we have demonstrated that we already have a pretty significant diversity in the portfolio.

SENATOR BUCCO: But, isn't that going to change as you continue along the Governor's proposed Energy Masterplan for 100%

renewable energy? I mean, if we can't keep up now, if we don't increase on the other side, and we know that the demand is increasing, the rates are going to continue to go up.

MS. GUHL-SADOVY: That is why we need to bring more generation online.

SENATOR BUCCO: But, in an industry that we have to subsidize. And, that comes at a cost. Am I not correct?

MS. GUHL-SADOVY: Any new generation comes at a cost, Senator, regardless of the resource.

SENATOR BUCCO: I think until we commit ourselves to having a more balanced portfolio of nuclear, clean-burning natural gas; as we transition to a more renewable energy supply; you're going to continue to be here, and you're going to be continuing to look for ways to take money from your right pocket to put in the left pocket so people can pay their bills. It's just economics.

So, I'll tell you, I mean, I'm disappointed that we're here today. Especially in light of the fact that people have been sounding this alarm for five years. And, it seemed like that -- those alarms went on deaf ears, and now we're here scrambling because people are not going to be able to pay their bills this summer. And, that's a shame.

SENATOR SARLO: Thank you, Senator.

Assemblyman Bailey, followed by Assemblyman Sauickie.

ASSEMBLYMAN BAILEY: Thank you, Mr. Chairman; I appreciate the opportunity.

And, for the record, I come from -- Chairman DeAngelo, I come from a very small community in Salem County where my 89-year-old

mother still hangs her clothes out to wash -- to dry; excuse me. So, you can still see that in Salem County today.

I think the rate-setting process -- and I think about my 89-year-old mother -- is opaque to the normal consumer; myself at times. I see a rate request approval, and we've been talking a lot at the macro level today, but I want to kind of bring us down to the micro level on those rates. They see a rate request approval, and they don't understand what goes into it, and what protections are in place for them against these unnecessarily high increases.

So, I want to ask if you can walk us through the rate case process this morning, and explain how you vet proposed rate increases to ensure that utilities *aren't* overly profiting on the backs of ratepayers more than is necessary.

MS. GUHL-SADOVY: Sure. So, I will avoid talking about anything that's pending before the Board right now, because there is a rate case pending.

But, the general process-- And, to be clear, this is for the distribution side; these are for the infrastructure upgrades when a utility files. This is for the-- These are for the infrastructure upgrades associated with maintaining the system.

A rate case is filed after the infrastructure upgrades are made. So, the utility and part of the regulatory compact has to maintain their system to ensure that there's reliable service on the distribution side. And, so, the utility -- and, this is not just the electric utilities; gas as well; water -- the utilities file a rate case with the Board to account for the investments that have been made over a certain period of time. Utilities --

different utilities come in at different time periods for their rate cases. They file their rate case; there is an in-depth review of all the expenditures. We have a significant staff resources to ensure that we are reviewing that both from an engineering standpoint; from an accounting standpoint; and from a legal standpoint.

And, so, the utility files the rate case, and those -- all of those expenditures are reviewed to make sure that they are prudent; make sure that the utility is appropriately accounting for the cost. That's part of why we have an engineering team that works on those rate cases so that we have experts that can help to vet with our accountants to make sure that there's -- that those utility expenditures are appropriately accounted for.

And, then the rate -- there is -- we are always prepared to litigate a rate case, but my question always is, are we getting the best deal for the ratepayers via litigation. So, in the rate cases last year, we settled the rate cases at a number we felt was an appropriate number to provide the recovery for the infrastructure that the utility invested, as well as an appropriate return on their investment.

In the last -- just since I have been President, we have retained an expert on ROE -- on return on equity -- to ensure that working with our economist's office, that the appropriate amount of return -- no more than what they should be accounting for -- is provided to the utilities. We also -- in the rate case last year -- for the first time in this administration -- we utilized a penalty on return on equity. So, a penalty for non-performance for one of the utilities to ensure that if their performance -- their infrastructure -- was not being upgraded, there would be a penalty on the return on equity.

So, that's kind of the general overview.

ASSEMBLYMAN BAILEY: So, just to be clear, when we're looking at potential ROIs of 9, 10, pushing 11%, it's been reported, it's that expert that you have on your team -- those folks who are reviewing that -- who are coming back to the ratepayers and saying, "We think this is an appropriate amount of ROI."

MS. GUHL-SADOVY: So, just to be clear, we have not done a 10%, I don't think. I would have to look back at the last several years -- decades, probably -- since we've done a 10% ROE, in spite of the requests that might come from the utility -- that's not what we settle on.

But, we have also an Office of the Economist. So, we have experts in the Economist's office, we have accountants, and we have engineers to look at the appropriate costs.

But, yes.

ASSEMBLYMAN BAILEY: Switch gears for a second.

Societal Benefits Charge -- do we know how much we collect annually for the Societal Benefits Charge?

MS. GUHL-SADOVY: I don't know the number off the top of my head. The Clean Energy Fund, I think, is $344 million. But, that also -- the Societal Benefits Charge includes SPC; includes USF; as well as the Clean Energy Fund. So, I don't know -- I'll get that.

ASSEMBLYMAN BAILEY: And, I want to be clear, I'm a proponent of the Societal Benefits Charge.

MS. GUHL-SADOVY: Sure.

ASSEMBLYMAN BAILEY: I'm just trying to get a handle upon how much is -- how much is earned; how much is spent; how much is

unused. We're having discussions in different committee levels around utilizing some of those funds, and I'm just trying to get a sense of how much is actually available in that -- in that arena.

We had a conversation recently, and, so, I just want to, for the record -- so, and you just basically laid it out -- but you feel like, currently, that you're well-staffed? Do you feel like you have the right team on hand to make decisions that you need to make on a daily basis? And, so, you don't need any help from us in the Legislature, as far as adding to your staff, or any additional empowerment that we can do for your team?

MS. GUHL-SADOVY: That's a great question.

So, I take a lot of pride, because I *was* the Chief of Staff, to say that we are at the highest staffing level that we've been in in this administration. We've continued to add staff over the course of the last seven years. It is a small team, but it's a small and mighty team. It's the best staff in State government. We have some really incredible experts. People have been at the Department for decades working on some of these issues, as well as some really great new technical experts on a lot of these new developments.

ASSEMBLYMAN BAILEY: Final question. Why has there not yet been a fifth commissioner appointed?

MS. GUHL-SADOVY: That's not a question that I can answer, Assemblyman. That's a question for the Governor's Office. I don't have any involvement in the appointment.

ASSEMBLYMAN BAILEY: Well, certainly, I just want to, for the record, say as we look at the issues, and the rates, and the increases, and what we're experiencing in Southern New Jersey, we're going to push

that that be a Southern New Jersey representative when they're named. But, we would certainly like to see that seat filled.

Thank you.

MS. GUHL-SADOVY: OK.

SENATOR SARLO: I'm going to go to Assemblyman Sauickie, but real quick, Commissioner. And, I know we're going to move through this quickly.

BPU cares about the ratepayer, correct?

MS. GUHL-SADOVY: Yes.

SENATOR SARLO: OK.

That's your Number 1 mission?

MS. GUHL-SADOVY: Yes.

SENATOR SARLO: OK.

MS. GUHL-SADOVY: Reliable; affordable. Number 1.

SENATOR SARLO: So, if stakeholders, whether this Legislature-- Would BPU be open to and willing to -- as we continue to explore renewable energies; we need to explore renewable energies -- if there is a decision to go forward with repurposing an existing plant for clean, natural gas, is that something BPU would embrace to help offset our demand?

MS. GUHL-SADOVY: When you say, "clean natural gas," are you talking about renewable--

SENATOR SARLO: One question.

MS. GUHL-SADOVY: I think we need to--

SENATOR SARLO: Is that something that BPU would embrace? I just want to hear it.

MS. GUHL-SADOVY: I think we need to explore all options to make sure that we have reliable power. Our mission is reliable and affordable service, so I think--

SENATOR SARLO: I'm giving you a softball here.

(laughter)

MS. GUHL-SADOVY: I think we need to explore all options.

SENATOR SARLO: OK.

Assemblyman Sauickie.

ASSEMBLYMAN SAUICKIE: Thank you, Chair.

You stole my thunder on that question, though.

(laughter)

MS. GUHL-SADOVY: Oh, my goodness, I'm sorry. I can--

ASSEMBLYMAN SAUICKIE: I won't lie to you, I was ready for that question.

Madam President, my colleague just brought up the Societal Benefits Charge. I was surprised *not* to see that listed as one of the components in your testimony, in that -- and, I do get on a lot of bills it's part of the distribution.

MS. GUHL-SADOVY: Yes.

ASSEMBLYMAN SAUICKIE: But, at the last hearing we had, that was listed as one of the big three. Even the utilities agreed that that was a big one.

Why are -- why in any of this are you not calling out the Societal Benefits Charge as an expense to ratepayers?

MS. GUHL-SADOVY: So, it is an expense. We wanted to make it simple -- just generation or supply and distribution. It's part of the distribution; it's about 4%.

ASSEMBLYMAN SAUICKIE: Yes, I mean, it represents on a bill I just looked at 10% of the actual supply charge. So, it's a fairly significant number.

To the question that Assemblyman Bailey had, what is the balance of the account for the Societal Benefits Charge right now?

MS. GUHL-SADOVY: I would have to look. I'll get back to you; I don't know.

ASSEMBLYMAN SAUICKIE: OK. I heard somewhere between $250-$300 million. That's what I heard is the balance right now, and it gets fed every month, right? I mean, it's something that, every month, is getting contributed to?

MS. GUHL-SADOVY: It's a-- So, we budget out for a year. Right now, we're in the open (indiscernible) budget process--

ASSEMBLYMAN SAUICKIE: OK--

MS. GUHL-SADOVY: --but yes, it's collected.

ASSEMBLYMAN SAUICKIE: You referred to something -- later, that I'll get to -- regarding where that money's being spent. In your testimony, you said, "When demand is high and supply is limited, prices go up." To Senator Bucco's comment, I think we get the economics; makes sense.

Why is supply limited?

MS. GUHL-SADOVY: So, I think there's two -- two parts of that. The perception of a limited supply, which is the PJM market rules I

referred to, and the limited supply based on the demand -- the limited supply relative to the amount of electricity that we need.

And, so, part of that -- as we talked about -- is data centers. The perceptions for load growth have changed drastically, and so we need more supply to meet that demand.

ASSEMBLYMAN SAUICKIE: Right, but why is supply limited? And, when did it become limited?

MS. GUHL-SADOVY: I would have to look at when the projections changed, but I think about two years ago, PJM's projections had a drastic change for just the next five years.

ASSEMBLYMAN SAUICKIE: OK, so, at one point -- you mentioned Pennsylvania and Governor Shapiro. At one point, didn't we do the same thing? Like, didn't we have enough supply in the state to cover us without having to go out of state?

MS. GUHL-SADOVY: I don't know of a time where we were neutral, where we had enough electricity to cover all of the needs at all times.

ASSEMBLYMAN SAUICKIE: OK.

You brought up Oyster Creek before. By the numbers I'm looking at, Salem and Hope Creek represent about 27 terawatts of energy, and roughly 40% -- I think you even said that, 40%--

MS. GUHL-SADOVY: Yes--

ASSEMBLYMAN SAUICKIE: --supplied to the state, right?

My understanding is Oyster Creek was doing about 6 terawatts when it was decommissioned. That, in addition to the five plants

that were taken offline in that same time period, represents somewhere around 15 terawatts of energy that we lost in that time period -- since 2018 we're talking about.

You're talking about projects that bring in not terawatts, not gigawatts, but megawatts. So, we talked about this -- as Assemblyman Bailey mentioned, in a committee -- where we need terawatts. Why are we focusing on energy supply that brings in not terawatts or gigawatts, but megawatts? Even battery storage, which we just heard about -- which I'm all for, I just don't want the ratepayers to pay for it, but I'm all for pursuing that kind of alternative source of supply. But, even at their best estimate, it was going to give us one gigawatt. So, that means we need a thousand of them to get one terawatt. If we're short 15 -- best estimate -- we need 15,000 of them.

So, why are we focused on supply options that are bringing in not even close to what we need to address the problem?

MS. GUHL-SADOVY: So, we-- We're focusing on a lot of supply options. And, just to be clear, we have doubled the amount of solar during the last seven years, and that *is* in gigawatts -- right; 2.4, I think, gigawatts in the last seven years. In addition, the amount of offshore wind slated to come online by 2032 was another 4, I think, gigawatts. So, we have looked at gigawatts as well. For solar and storage, they're smaller projects, so they're distributed, but together they are gigawatts. It's not -- they're just distributed across the state.

ASSEMBLYMAN SAUICKIE: Right, but the third highest one -- I'm looking at the list of generation plants in the whole state.

Third-highest on the list is the Linden CoGen plant; it's a natural gas plant; brings in 5.6 terawatts of energy.

Again, why aren't we focused -- why aren't we focused on natural gas and nuclear -- which, I've got to question the defending the administration on nuclear. I don't know how anyone believes that, and I don't know what policies have been enacted or promoted that would support that statement.

But, sticking with natural gas for a second, you've got a whole list of natural gas generation plants on here doing terawatts, or at least mega amounts of gigawatts. Why aren't we going all in on that to address this problem?

MS. GUHL-SADOVY: So, I think there might be some confusion between the amount of electricity that's being produced. When we talk about the -- we'll call it the nameplate capacity -- so, if a power plant is 1,000 megawatts, that's the capacity; the amount of electricity that's being produced is in terawatts. But, the Salem and Hope Creek are 3,800 megawatts of nameplate capacity. So, there's a bit of a difference there.

ASSEMBLYMAN SAUICKIE: Well, I'm talking on an annual basis.

MS. GUHL-SADOVY: Yes.

ASSEMBLYMAN SAUICKIE: So, annual--

MS. GUHL-SADOVY: Yes, but that calculates over time. Salem and Hope Creek, the capacity -- the nameplate capacity, the amount that they could produce at a given time -- is 3,800 megawatts. So, the solar that we have done in the state in the last seven years is 2.5 gigawatts of capacity that we have added to the grid.

And, I think to your point with the question about nuclear, this administration is the one that passed, with your support in the Legislature, the ZEC law that BPU implements, and that I have been working on since 2018.

ASSEMBLYMAN SAUICKIE: Yes, I would argue reluctantly. But, that was after Oyster Creek was closed in 2018 first--

MS. GUHL-SADOVY: Yes--

ASSEMBLYMAN SAUICKIE: --and we lost that capacity.

MS. GUHL-SADOVY: Yes, but Oyster Creek didn't -- they closed in 2018; the starting of the closure was not in 2018. Closing a nuclear plant takes a significant amount of time.

ASSEMBLYMAN SAUICKIE: Yes, well, allowing it didn't. But--

MS. GUHL-SADOVY: OK, but that was Governor Christie.

ASSEMBLYMAN SAUICKIE: I want to switch to something else.

The-- You mentioned about last year, doing a one-time payment to those who were deemed income eligible -- 278,000 households at $175 per. And, you're planning on doing that again?

MS. GUHL-SADOVY: It's being proposed, yes.

ASSEMBLYMAN SAUICKIE: OK.

So, we talked about this last time. That's $47 million. One time.

MS. GUHL-SADOVY: Yes.

ASSEMBLYMAN SAUICKIE: Don't you think there are more permanent solutions that could be done with that kind of money?

And, to be clear, I'm all for some short-term things. And, I think we, collectively in the Legislature, have a lot of options in front of us to address today's ratepayer bills, by eliminating things like sales tax on electric and gas; by eliminating things like allowing the utilities to pass through administrative costs for their executives to ratepayers. Those are things they can do today that we shouldn't be letting them. Letting them charge $15 a month, or $180 a year, for a smart meter. Those are things we could change right now.

But, with the real money that's in the SBC -- the Societal Benefits Charge pool -- why aren't we focusing on permanent solutions? I mean, I work in startups in my private sector job. We start companies for significantly less than $47 million. And, you're spending it once, and now again this year, one time. Why aren't we devoting that to more permanent solutions?

MS. GUHL-SADOVY: So, I've--

SENATOR SARLO: We have about a minute left here, so.

MS. GUHL-SADOVY: I'll keep it short.

There is a proposal for a more permanent solution in the legacy SREC proposal -- that is to reduce the cost of legacy SREC projects; projects that were already constructed in the first program, many of which have already been paid for. And, the proposal that is out there -- I think there are a couple versions -- has the potential to save a billion dollars in ratepayer costs over five to six years.

ASSEMBLYMAN SAUICKIE: OK.

MS. GUHL-SADOVY: So, that is a long-term solution to reducing costs.

ASSEMBLYMAN SAUICKIE: Do I have 30 seconds, Chair?

SENATOR SARLO: Thirty seconds.

ASSEMBLYMAN SAUICKIE: All right.

Not even a question, but I'll tell you, working off what Senator Bucco said.

In the private sector, when we have a problem, we look at causal analysis. A lot of people say, "Hey, what's the root cause?" But, there's contributing cause, and there's root cause. What you're highlighting in here I think are contributing causes.

The root cause is this administration's Masterplan. It is the policy. Everything we've done since then -- whether it's legislatively or otherwise -- are all contributing causes. The fact we're short on supply is because of the root cause, which is the Masterplan. So, I think until we admit that, and we change direction -- which your testimony doesn't seem to do; it seems to support it -- I don't think we're ever going to fix this problem.

Thank you, Chair.

SENATOR SARLO: Co-Chair DeAngelo and I, our goal is to get PJM up here by 11:45. So, we're going to-- Senator Zwicker, do you have a question?

And, then we'll go to Senator Testa.

SENATOR ZWICKER: Sure; thank you, Chairman.

I'll try to be quick.

Thank you.

I want to get back to the interconnection issues -- capacity -- that so many people on this Committee are talking about.

Senator Smith, to my right, mentioned in his questions there are 79 projects in New Jersey that have been stalled for years. According to what I have-- And, the first question is, is this accurate? There are over 3,000 projects currently stalled on the PJM grid. Does that sound about right?

MS. GUHL-SADOVY: It sounds right, but I would want to confirm.

SENATOR ZWICKER: OK.

And, of that, it's about 287,000 megawatts of total power -- more or less, right?

I see you're nodding your head.

MS. GUHL-SADOVY: Yes.

SENATOR ZWICKER: How many powerplants is that--

MS. GUHL-SADOVY: Two--

SENATOR ZWICKER: --if you just take an average powerplant?

MS. GUHL-SADOVY: I mean, if an average power plant is 1,000 megawatts, 287.

SENATOR ZWICKER: So, there are-- Thank you.

MS. GUHL-SADOVY: Sure.

SENATOR ZWICKER: I was trying to give you an easy math question.

(laughter)

MS. GUHL-SADOVY: Thank you, I appreciate the softball, Senator.

SENATOR ZWICKER: The point being that there are a little less than 300 powerplants ready to go, right? They just can't connect at this point.

MS. GUHL-SADOVY: That's right.

SENATOR ZWICKER: That's correct; OK.

So, if they were to connect, what does that mean in terms of capacity? When you look at the total capacity that we need on the grid right now, that's a lot of power. What does that mean?

MS. GUHL-SADOVY: I mean--

SENATOR ZWICKER: If we get these on quickly.

MS. GUHL-SADOVY: It means lower prices. I don't know-- I don't know by how much. I'm sure that we can do the calculation for you--

SENATOR ZWICKER: I didn't ask how much, but--

MS. GUHL-SADOVY: --but it definitely would have a price suppression impact, and it would be lower prices in the auction.

SENATOR ZWICKER: OK, thank you.

What -- now, (indiscernible)

What do we need to do -- what do *you* need to do, what does the BPU need to do -- to accelerate -- what *can* we do to accelerate getting that power onto the grid?

MS. GUHL-SADOVY: So, we need-- We certainly need to open up the storage program, which we are working on, so we can get storage online. We need to move forward -- continue to move forward -- on

our solar initiatives, so we can get solar online. We need to continue to work through our grid modernization proceedings so that on the interconnection side -- on the distribution side -- that the utilities are moving as quickly as possible to get projects online.

So, I think that we are doing a lot of things to make sure that those projects that are in the interconnection queue at PJM can get connected in New Jersey as quickly as possible and get online. And, I think for solar and storage, that's two to three years.

SENATOR ZWICKER: Right.

How long will it take for natural gas? If we're going to start to build a natural gas powerplant tomorrow, how long would it take to build one?

MS. GUHL-SADOVY: I think it takes about five to seven years.

SENATOR ZWICKER: So, the fastest way to increase would be to build solar?

MS. GUHL-SADOVY: Certainly.

SENATOR ZWICKER: All right; OK.

Next question. What about enhancing our grid? And, by that I don't mean just reliability and resiliency. But, there are lots of technologies out there to enhance the grid; to increase transmission; to take the infrastructure that we have right now, and allow us -- if we can make these interconnections -- allow us to then increase the capacity of the existing grid.

What should we be doing? What should BPU be doing? What should the State be doing? How can we get these moving faster within New Jersey?

MS. GUHL-SADOVY: Yes, so we are actually working with -- and, I think you're going to hear about this later as well -- we're working with other states to get those, get those grid-enhancing technologies further along in development, so we can make sure that the grid is stable and can get more capacity online as quickly as possible. We work with a lot of other states in the region on these issues -- mostly PJM states.

SENATOR ZWICKER: Yes.

OK, my next question. Back to the auction.

So, as you mentioned in your testimony, you have -- BPU has -- certainly helped secure reforms, and that is a good thing. As you mentioned, price increases could be even higher without those reforms, and working with FERC to do that. But, given the fact that this auction was locking in prices for the next three years, what else can BPU do to start pushing for auction reforms now? Have you considered tier pricing? Blending mechanisms? Anything to smooth some of these short-term shocks that we're seeing?

MS. GUHL-SADOVY: So, we actually, in the State level basic generation service, we have a three-year -- it's like a three-year average. And, so, that has actually helped to smooth out some of these increases. If we were going off of just the last PJM auction, we would have seen even higher increases.

In addition, we have been working with OPSI -- the PJM -- the Organization of PJM States -- to push for additional market rule reforms to ensure that the next auction -- which is in July -- does not have an even greater impact on ratepayers.

SENATOR ZWICKER: Last question for me.

The Universal Service Fund, which is an existing mechanism to try to help folks who are really struggling every single month to pay their bills. According to what I have in front of me, only about 20% of eligible residents are enrolled in the Universal Service Fund. What's going on? Why don't more people know about this? Why aren't they enrolling? And, what is BPU doing to ensure that we can get everybody who is eligible for rate relief into these sort of programs?

MS. GUHL-SADOVY: Yes, that's a great question. And, that was something that we -- the affordability study that we did that we received last week, that was one of the findings, was that only 20% of eligible residents were enrolled in USF.

And, so, that is why one of the two USF changes that we proposed was to require that the utilities meet certain enrollment targets to increase enrollment.

SENATOR ZWICKER: How quickly can you -- would you think you expect to see this?

MS. GUHL-SADOVY: So, the proposal is out. We have a stakeholder meeting next week. I would encourage everyone to attend; it's virtual. The new USF year begins in October, so ideally, if we were going to finalize changes, we would want to do that as quickly as possible so the new USF changes would be -- would have an impact coming October.

SENATOR ZWICKER: In October. OK.

Thank you.

MS. GUHL-SADOVY: Sure.

SENATOR ZWICKER: Thank you, Chairman.

SENATOR SARLO: Senator Testa.

SENATOR TESTA: Thank you, Mr. Chairman.

Madam President.

Chairman Sarlo recently referenced the mission statement of the NJ BPU, but I want to make my questions very clear. The New Jersey Board of Public Utilities' mission is to ensure the provision of safe, adequate, and proper utility services at reasonable rates while enhancing the quality of life for New Jersey citizens and performing public duties with integrity, responsiveness, and efficiency.

Now, I always ask this question when any member of the administration comes before the Legislature in any committees I sit on, and it's what grade they would give themselves. So, I'm asking you -- what grade would you give yourself and the BPU on keeping electric costs down?

MS. GUHL-SADOVY: That's a great question.

My mom and my sister are both teachers, so, thank you.

I think that we have done everything -- and continue to do everything -- that we can to keep costs as low as possible. On the distribution side, where we have regulatory authority, I think we have done a good job doing that.

But, certainly, we do not want to see ratepayer costs go up in the way that they are as a result of these generation increases. So, I would have to think about what that translates into a grade.

SENATOR TESTA: We have 10 minutes, so, what do you think?

(laughter)

SENATOR SARLO: You've got eight and a half.

MS. GUHL-SADOVY: Sure. I guess we will -- I will say -- I will give myself a B.

SENATOR TESTA: And, that's fair.

It seems to me, from your testimony earlier today, that you're blaming a lot of the problems with the proposed energy rate hikes squarely at the feet of the PJM. Is there anyone else that bears any responsibility besides PJM -- in your mind?

MS. GUHL-SADOVY: So, the generation increases that are coming in June are a result of the capacity auction. Those-- That is why the generation increases are what they are. It is a result of the capacity auction. We need more generation, yes, but those market rules are a driving factor for those increases.

So, I think it is fair to say that it is a result of PJM's market rules and the market. That is why we are seeing these increases.

SENATOR TESTA: OK.

And, Madam President, I appreciate your answer, so I'm going to ask you to give PJM a grade. What grade would you give the PJM?

MS. GUHL-SADOVY: I don't know, Senator, I would have to think about that.

SENATOR TESTA: I think it could sort of be implied by your last answer, but that's just me.

Is there anybody else who has to bear some of the brunt of the blame for what I believe to be an energy cost crisis that is looming this summer?

MS. GUHL-SADOVY: I think that, as we've pointed out, there are a lot of reasons why we are in the situation we are in. We need

more generation; we have demand forecasts that are projecting increases across the PJM region. So, I think that there is -- there is -- we all have responsibility as regulators for making sure that we keep costs as low as possible.

SENATOR TESTA: Do you believe that the NJ BPU bears any of the responsibility for the increased rates that are coming?

MS. GUHL-SADOVY: I think we have *all* the responsibility for ensuring that, on the distribution side, we keep rates as low as possible and provide reliable service. And, I think that we have done that.

SENATOR TESTA: And, look, it's no secret I've been pretty vocal about my opposition to the Energy Masterplan. And, to sort of piggyback on Assemblyman Sauickie's comments earlier, the Murphy administration has been there for seven-plus years at this point. And, I appreciate the fact that you're stating that we need new generation, because there's no doubt that we need new generation within the borders of the State of New Jersey.

And, I understand that you said a new natural gas plant would take between five and seven years. Well, why wasn't this started, maybe -- I don't know -- five years ago?

MS. GUHL-SADOVY: Well, Senator, five years ago, the projections for demand growth were vastly different -- which I know PJM will talk about. Five years ago, we were on the trajectory to getting thousands of megawatts of offshore wind not just into New Jersey, but into the PJM grid. So, we were acting five years ago based on the information that we had.

SENATOR TESTA: OK.

How much more time do I have there, Chairman? Five -- about five?

SENATOR SARLO: Four minutes.

SENATOR TESTA: OK.

And, I'm not trying to be snarky here, and I mean that. But, every time members of the BPU appeared before the Budget Committee in the past, you wore wind turbine pins. I noticed that none of you who are representatives of the NJ BPU have those pins on today. Could you explain why you don't?

MS. GUHL-SADOVY: This was the pin that I had. I didn't have any pin, actually. I had to ask a staff person to give me a pin. So, this was the pin that I had.

SENATOR TESTA: I remember when President Fiordaliso wore the nuclear pin; I really appreciated that. And, the friend that--

MS. GUHL-SADOVY: And, his wife wears that pin, just so you know. I just saw her, and she wears the nuclear pin.

SENATOR TESTA: That's fantastic.

So, I want to talk about the Societal Benefits Charge. My understanding of the SBC -- as it's referred to, which is on every ratepayer's bill -- is supposed to fund utility assistance. Instead, the FY25 budget raided $137.7 million from the SBC for New Jersey Transit's electric buses and other pet projects.

Why are New Jersey residents still forced to pay this surcharge when the BPU and the administration keep diverting these funds away from ratepayer relief?

MS. GUHL-SADOVY: So, I just want to -- I don't -- I have to look on that number.

So, the SBC incorporates ratepayer relief in the form of USF, and also the Clean Energy Fund. So, it is not-- We're not taking money from ratepayer relief at all. We are actually-- We want to expand ratepayer relief with the Universal Service Fund proposal, which I think is a good one.

But, we-- There are a significant number of projects around the state, and I don't have the list in front of me, but many projects in districts that you all represent as legislators to help people to lower costs through energy efficiency. We have a comfort partners program that provides energy efficiency upgrades for low-income customers; we do a new construction program to ensure that buildings are energy efficient. So, there are a significant number of really great investments in districts around the state to provide those resources -- not just to businesses and residents, but also to municipalities, county governments, and schools. And, when those institutions do energy efficiency projects, that actually lowers costs for everybody in their municipality or district.

SENATOR TESTA: I'm restricted on time, so I won't go down that further, but I had more questions on that, and you'll probably hear them at the Budget Committee.

MS. GUHL-SADOVY: Great.

SENATOR TESTA: So, in 2017, the BPU created an Infrastructure Improvement Program that lets utilities raise rates for upgrades outside the normal rate case process. Even the Rate Council has warned this fast-tracks rate hikes on customers without full oversight.

Why did the BPU create a separate fast-tracked approval process for infrastructure spending outside the traditional rate case?

MS. GUHL-SADOVY: So, I think-- I think it was before 2017, but I would have to check on that. The Infrastructure Improvement Program is to ensure that projects that are needed for safety and resiliency -- not just on the electric side, but also on the gas side -- are being done in the time that they need them.

To be clear, the projects and investments that are made in IIPs don't cost more for ratepayers, and there is still a very thorough analysis for prudency in every rate case. Yes, there is accelerated recovery, but it is not more, and it is to ensure a safe system. So, for example, natural gas IIPs -- if there is infrastructure that is a safety concern, that is done through an IIP to ensure that there is not a natural gas incident that could have been prevented.

SENATOR TESTA: OK, but does that process exist to ensure fair pricing? Isn't that what that process exists for?

MS. GUHL-SADOVY: So, all of it -- we are always trying to ensure fair pricing. We are trying to make sure that the utilities are not -- not doing the things that are for safety and resiliency. And, so, that they are making those investments that are critical in a timely fashion.

SENATOR TESTA: But, if that's the case, shouldn't ratepayer oversight be strengthened rather than streamlined or bypassed?

MS. GUHL-SADOVY: I think it is still very strong. As I said, all of those expenditures are still reviewed for prudency in a rate case. They're not *not* reviewed; there has to be prudency for all the expenditures.

SENATOR TESTA: OK--

SENATOR SARLO: A little less than a minute left.

SENATOR TESTA: OK.

So, it's one question. And, two weeks ago, the NJ BPU released its EMP analysis emphasizing, and I quote, "no regret" climate actions like electrification. Can you explain what "no regrets" means to you? And, do you have no regrets at all with going full force in with the Energy Masterplan?

MS. GUHL-SADOVY: So, the modeling that was released is to provide multiple options for a path forward for making investments to get to a clean energy future. We understand that circumstances, particularly around Federal support for renewable generation, have changed. So, I think that the administrations moving forward on clean energy is important to ensure the economic development associated with clean energy, as well as the climate benefits associated with clean energy.

SENATOR SARLO: Thank you, Senator.

SENATOR TESTA: Thank you.

SENATOR SARLO: Senator Greenstein, and then we'll move on with the next panel.

ASSEMBLYMAN KANITRA: (indiscernible)

SENATOR SARLO: Oh, you've got a question?

ASSEMBLYMAN KANITRA: I've got a few, if that's all right, Chairman.

SENATOR SARLO: Senator Greenstein.

SENATOR GREENSTEIN: Yes--

SENATOR SARLO: Then the Assemblyman.

SENATOR GREENSTEIN: President, thank you very much.

I just have a few things here.

The first question is, from a policy standpoint, what can legislators do to help drive down prices?

MS. GUHL-SADOVY: So-- Thank you, Senator.

There is a proposal out there to address the cost of legacy SRECs, as I mentioned before. Those projects, again, many have been paid for. That is not -- the program is no longer open. We've transitioned at the BPU to a different structure for SREC program.

And, so, ensuring that those projects are -- the legacy SRECs are set at a reasonable rate -- will save ratepayers money for the duration of the legacy program.

SENATOR GREENSTEIN: Thank you.

And, in your opinion, what do you foresee happening in the next few years, in terms of PJM's capacity market auctions? Have you taken any steps in anticipation of further price increases?

MS. GUHL-SADOVY: So, certainly, if we see demand rise in the way that it is being projected -- which, I think there is some question about the projections for actual increases in demand -- that will be a concern. The next auction is in July, and I think folks know that there is -- Governor Shapiro filed a lawsuit, which New Jersey supported, to set a ceiling -- a $325 ceiling -- on the next auction, so that will help to maintain the pricing at that level or lower.

SENATOR GREENSTEIN: And, the last question I have is, can you explain why the BPU settlement with PJM to retain the reference

resource will set a lower price cap than the price cap proposed in the settlement between -- as you said -- Governor Shapiro of Pennsylvania and PJM?

MS. GUHL-SADOVY: So, it's not just-- Thank you, Senator. It is not just that part of it, it is the reference resource, which ensures that the appropriate generation resources are the ones used as a reference so that there is an accurate accounting for how much capacity they're producing. But, in addition, it is also ensuring all the renewables are bid into the market because they are producing electricity. So, that is part of it, as well as the reliability must-run, which ensures that all of the peaker generation -- those plants that are operating at times of highest demand -- are also counted in the capacity.

We hope that that will have a price suppression effect that will be lower than the ceiling from the Shapiro lawsuit, but if it does not have that, then the Shapiro lawsuit will set the ceiling.

SENATOR GREENSTEIN: Thank you; thank you very much.

SENATOR SARLO: Assemblyman.

ASSEMBLYMAN KANITRA: Thank you, Chairman.

Madam President, good to see you again.

MS. GUHL-SADOVY: Good to see you, Assemblyman.

ASSEMBLYMAN KANITRA: As you well know, the only reason that I'm sitting here in the State Assembly right now is because I left the mayorship of Point Pleasant Beach when the whole wind situation kicked off, and I saw the uproar in the 10th Legislative District.

So, I have a really pointed question. If you had to pick only one, what would matter more to you: Ensuring that energy costs are as low as humanly possible for the ratepayers of New Jersey, or achieving your climate change goals?

MS. GUHL-SADOVY: So, I would want to ensure that there's reliable service first -- that's the most important thing. And, I think that we can both prioritize the environment and also energy costs as we have been doing in this administration. I think they're both important.

ASSEMBLYMAN KANITRA: What's more reliable: Wind energy, or natural gas? What gets a more steady stream of electrons on a regular basis?

MS. GUHL-SADOVY: Yes, I think that you -- that natural gases is more reliable, but wind with storage is also reliable.

ASSEMBLYMAN KANITRA: OK, so let me ask you this: Why did the BPU decide that offshore wind, at the cost of about 150 megawatts an hour, was a better allocation of ratepayer money and taxpayer money than building more natural gas plants, which generally are $10-15 a megawatt hour?

MS. GUHL-SADOVY: Well, the goals of the administration are to move to clean energy and the environment is very important -- as is public health--

ASSEMBLYMAN KANITRA: There we go; that's perfect; that's what I wanted to hear. The goals of this administration are moving towards clean energy; really doesn't have anything to do with keeping ratepayer costs low. It's an ideological goal, and that's how decisions are made.

How much have you spent, and how much *will* we spend, on transmission for offshore wind? For instance, the Larrabee Plant that's still getting built right on the outskirts of my district -- I believe in your district, Assemblyman -- and they're going to be tearing up Sea Girt and Manasquan for the transmission lines. How much has been spent so far, and will be spent?

MS. GUHL-SADOVY: I would have to look at that, but we want to make sure that transmission is available for all resources -- not just offshore wind.

ASSEMBLYMAN KANITRA: OK, well, those transmission lines are specifically for offshore wind, just like the wind port and everything like that. The answer is about $2 billion taxpayer dollars.

So, I noticed earlier when you were talking, you tended to blame President Trump for the offshore wind industry collapsing. I remember one of my last days as Mayor of Point Pleasant Beach, I came and I testified, and I talked about how financially inept Ørsted was, and how they had been bailed out before by some of their financial stakeholders. And, I listed all the problems there. And, then, Ørsted collapsed before President Trump ever issued any of his executive orders.

It seems like it's a dying industry. Yet, we continue to make decisions assuming that offshore wind energy is going to be part of our energy mix here in New Jersey -- like I mentioned the Larrabee Plant as well.

When is the administration going to admit that there probably will not be a turbine built off the coast of New Jersey in the foreseeable future?

MS. GUHL-SADOVY: I think that's a question for the Trump administration, not this administration--

ASSEMBLYMAN KANITRA: I'm talking about *this* administration.

MS. GUHL-SADOVY: Well, we hope that the Trump administration will continue -- will turn to support offshore wind because of the generation resource that's available.

ASSEMBLYMAN KANITRA: So, even now, after seeing the repercussions of our failed investments; seeing that the wind industry cannot stand on its own financially, despite all of the subsidies that we're planning to give them; *and* the fact that the cost per megawatt hour was actually going to increase -- I mean, ratepayers were going to pay more for wind energy *after* they all subsidized the industry anyway -- we're still blaming President Trump, and still -- even, let's say, let's say afterwards there's a Democrat in the White House, and they green light offshore wind again, you *still* would be putting taxpayer dollars behind offshore wind, instead of natural gas and some of the lower-cost energy sources, right?

MS. GUHL-SADOVY: Without new generation--

ASSEMBLYMAN KANITRA: We'd be right back here again.

MS. GUHL-SADOVY: Without new generation, ratepayers are experiencing significant cost increases. That is why we are here today. So, we need new generation to bring costs down.

ASSEMBLYMAN KANITRA: Well, we -- but, you can look at that-- You mentioned earlier that you personally went to see if Oyster Creek could be repurposed, right? Oyster Creek only went offline because

the DEP said that they needed to build a new cooling tower, and financially it wasn't feasible for them.

And, in fact, there was a Democratic bill -- I believe in 2021 -- that had a ton of steam -- I think it was Assembly Bill 4064 -- and that would have helped us get a small-scale nuclear reactor at Oyster Creek. But, as we all know, the Governor hated Holtec, and you guys killed that, or we'd be two or three years away from a small-scale nuclear.

So, it just seems like it's all a little contradictory to me, obviously. And, everybody is so much more polished than I am; I'm just kind of a rube when it comes to a lot of this stuff. But, I see the blame with PJM, and I think the blame is all with the administration and the BPU.

SENATOR SARLO: OK, this is going to conclude this portion.

Commissioner, Madam President, you heard loud and clear from the members of this Committee.

I'm going to give my Co-Chair DeAngelo a minute to wrap up, but I just want to-- I think you heard us loud and clear, OK. And, elections do have consequences, right; elections do have consequences. And, there's a policy shift in Washington.

The storms are going to keep coming, and we need to look at renewable energies. There's no doubt about it. We need to continue to look at it. But, we can't just sit idle for the next five to seven years and not open our eyes to other concepts, OK -- OK?

I'm an engineer by trade; I build things by trade, OK. There's ways to expedite things; there's ways to do things.

BPU cares about ratepayers. We need to open our eyes and look at every available option we have, OK, to increase our generation.

ASSEMBLYMAN DEANGELO: Thank you, Madam President, and your staff, for coming today and hearing the concerns of our Committee.

Listen, I know very well -- although I'm more of the nuts-and-bolts -- there are two electricians on this Committee. One dresses better, and is well-manicured, and I'm the more nuts-and-bolts guy -- sorry, Chris.

(laughter)

SENATOR SARLO: (indiscernible) more money, he wears a vest under there.

ASSEMBLYMAN DeANGELO: But, I get the semantics of it.

And, for the Committee members, listen, there has been, in the past 15 years, an enormous investment into the infrastructure of our electrical grid.

I've seen it firsthand; my members have worked on it, and the practicality for everyone to have a better understanding of it -- when you have an old grid, an old substation, old switchyard, it's like having an old lawnmower. And, when it goes down, whether it's from a tree or a fault -- whatever it may be -- it's like trying to start that old lawnmower on the wet, clumpy grass -- it don't work very well. You've got a new lawnmower, it starts back up and gets back online quicker, back able to service our residents. That's the blue collar answer from when we were talking about our grid, and we do need to have our grid and infrastructure up to speed before we can add new generation to it.

As I said in the beginning, I want a well-diversified energy generation portfolio, and that it will be inclusive of battery storage. We were hoping to have offshore wind, so that as wind is going like this at night and everybody is sleeping, we're charging the batteries. That was part of that component, as well as the discussion on natural gas.

And, then, to my friends down in South Jersey, I know I've been begging Public Service for that fourth reactor on that pad that's down there. Maybe someday, Christmas, it'll come. But, that's part of our long-term, short-term goals, because battery storage, solar power -- you have a window of dispersement. It's not around the clock; you have a 4- to 6-hour window for battery dispersement. That's why I would like to see a larger bite at that apple on battery storage; same thing with solar and really generating too much at night.

But, it's part of that green energy because our populous in New Jersey has asked us that they wanted a greener generation portfolio -- not necessarily everybody -- everybody wants a clean environment, but at what cost? And, that's the varying level of the 120 of us -- we've all got it on the Legislature; we've all got a different idea on how we get to that point. But, I believe that we're going to get there for the betterment of all -- everyone in the grid, and everybody in New Jersey.

So, thank you, Chair.

SENATOR SARLO: Thank you; thank you.

At this point in time, members, if you need to take a moment, we're going to continue on here. Please feel free to step away if you need to for personal reasons.

Next panel will be-- We're going to hear from Asim Z. Haque; Senior Vice President, Governmental Member Services of PJM.

Sir, please provide your open testimony when you have a moment. Take your time.

And, then, we will follow up with some Q&A.

Good morning and welcome. Thank you for being here, sir.

A S I M Z. H A Q U E: Thank you Chairman Sarlo, Chairman DeAngelo, and representatives of the Senate Select and the Telecommunications and Utilities Committees.

Good morning.

My name is Asim Haque; I am representing PJM Interconnection here today.

Thank you very much for holding this hearing. It shows true care for your constituents, and we are-- We were pleased to be invited to be part of this conversation.

This is, in some ways, a complicated issue; in some ways, *not* a complicated issue. But, to the extent that we can be here to help try and solve this issue, we want to be here at the table with you all trying to solve this issue.

Our primary focus is reliability, but, we can't keep the lights on completely oblivious to consumer costs, and, also, clearly, what you're trying to achieve from a policy perspective. And, those have really become sort of fundamental pillars of energy delivery; reliability; cost. And, I've been in this industry for a number of years now -- those used to really be the primary pillars -- reliability and cost. Policy has unequivocally found its

way into that space. And, what I found over these past few decades in this space is that they exist in a very delicate ecosystem. And, when you push too hard on one of those items, the others might suffer.

And, so, we're going to spend some time talking about being in this position right now; what are we doing to try and help solve the issue; and, any questions that you might have for me.

I mentioned that our industry can be quite complicated. There is a -- we'll just characterize it as a major issue right now that many of you have already touched on, which is not that complicated. And, that is the supply-demand fundamentals that we are experiencing on the system right now. Demand is increasing due primarily to the proliferation of data centers, but also due to electrification, as well as the on-shoring of the U.S. manufacturing industry.

And, I do want to reiterate something that was referenced by President Guhl-Sadovy, which is this major uptick in demand, if we're all being very truthful with one another, nobody saw this coming -- this major uptick in demand over the past few years. Now, we certainly saw the supply-demand imbalance sort of changing many years ago. I don't know how you want to characterize many, but this will be my fifth appearance before the General Assembly. I have said very similar things around our concerns around diminishing supply with some level of frequency. But, the demand increase in particular -- this uptick -- is something that is a newer phenomenon.

And, what's now happened, and sort of what we're seeing here, is that with this major demand increase, when-- Let me just back up for a second. We are a footprint that has historically had flat demand, and

we were long supply. And, when you have flat demand and you're long supply, you can -- on the policy side, which is why I said this all exists in a very delicate ecosystem; it's a very delicate balance – you, on the policy side, you can do a lot when you've got that sort of wiggle room. And, so, what we're now seeing-- What we're now seeing with this major uptick in demand is there's no real wiggle room, and unfortunately, consumers are now seeing that on the bill side.

So, as demand is going up, supply is going down; supply is coming off the system due primarily to decarbonization policies and some economics, and new supply has been slow to trickle in. I'm glad the queue was referenced; I am happy to spend as much time as folks want to spend on the queue. I, frankly, think we have a very good story to tell about the queue, but we'll get there during Q&A.

You should be also aware-- So, a few sort of items that I-- I do this a lot; I spend a lot of time in our 14 jurisdictions. To, I believe it was Senator Zwicker's questioning, not every resource has the same -- we'll characterize it as reliability value. When you flip the switch, you don't know if that is a nuclear watt, or a coal watt, or a gas watt, or a solar watt that's been delivered to you. But, when you trace that watt all the way back to its resource, all of those different resource types, they have different availability and they have different capability. And, we have actually been able to mathematically determine what that different availability and capability is. Gold standard would be nuclear -- 95%. A fixed solar unit is 9%. Tracking solar unit is 11%. So, when we're talking about the difference between resources -- and, we are resource agnostic. A watt is a watt is a watt to us. We obviously want to take your policy considerations and try and help you

advance those policy initiatives. But, we have to just be very clear about numbers. So, when we're talking about 200,000 megawatts of primarily solar resources, and you apply that decrement, what you're really talking about is somewhere from 1,800 to 2,500 actual megawatts-- I did that math wrong. Twenty thousand; roughly 20,000 actual megawatts that would end up conceivably reducing the pricing concern that we have referenced today.

So, let me just also say that this is not all doom and gloom. There is some reason for optimism on the supply side. We talked about the demand side -- everybody understands that demand is increasing. On the supply side, through our queue process, we have advanced 50,000 megawatts -- 50 gigawatts. So, let's just -- let's take a step back and just talk about numbers, OK? We're a 180-gigawatt system. Think of us as 180-gigawatt system. We are currently -- we are -- we are running very close to our required reserve margin. Now, we have pushed through our queue 50 gigawatts through our queue. We hope all of those gigawatts -- most of it is primarily intermittent resources, primarily clean energy resources -- we hope all of those gigawatts build and ultimately come to fruition. Now, you have to apply that decrement, ultimately, when they participate in the market. But, we hope all of them construct. They have their own challenges; they can come here at some point and talk to you about some of those challenges. Maybe there's something legislatively that can be done to help them with their challenges. But, 50 gigawatts are through.

We'll be studying an additional 18 gigawatts to finalize through the queue this year; an additional 50 next year. So, that is a good amount of-- That's a good amount of power that we're going to be pushing through our processes. We also received approval from our regulator to open

up a lane in the queue to get more shovel-ready, high-reliability resources into the queue to try and diversify the mix. It was an initiative that we called the Reliability Resource Initiative; Federal Energy Regulatory Commission approved it. That application window closed last week, and we received 94 applications totaling 27 gigawatts. So, there's reason for optimism here. Fifty, plus 18, plus 50 -- and, then, we'll have to see how much of this 27 actually finds its way through this reliability resource initiative process.

And, so, we've already said it; you all have already said it; you recognize it. When demand increases and supply decreases, not only does that mean that we are headed towards a reliability challenge, but it also means that prices go up, and that's how it is in any market -- housing; vegetables; whatever market you want to point to.

So, now, let's just purely talk about New Jersey. Let's apply these supply-demand principles to New Jersey. New Jersey's demand is forecasted to increase roughly 2.8-4.7% over the next 10 years, depending on what service territory you live in. You are already importing around 35% of your energy from other states. So, New Jersey's demand is really outstripping your supply. And, we've talked about offshore wind; a big chunk of New Jersey's game plan for meeting this gap has been offshore wind. PJM worked extremely hard in tandem with the BPU -- and, I will not say a single negative thing about BPU. We have had a very strong relationship with them over these past few years. We worked hard on trying to prepare the grid for this influx of offshore wind. They've got great people over there.

But, as we sit here right now, it has not materialized; those projects have not materialized. And, when you look at New Jersey's queue, just what is in their queue to try and come onto the system to sort of alleviate

the supply-demand challenge, it's about 16,000 megawatts, of which 12,000 -- these are rough numbers -- of which 12,000 is offshore wind. So, that has been sort of the game plan to try and make up for the supply-demand challenge. And, it has not materialized *yet*; as we sit here today, it has not materialized.

As for what else you have-- We talked about offshore wind. As for what else you have that is either through the queue or is currently being studied, I just pulled this data yesterday. You have 1,652 megawatts through the queue that will hopefully move to construction soon, and we're studying an additional 1,062 megawatts. These are solar and storage resources. We need those megawatts; we hope they construct. We need everything that we can get to throw at this supply-demand problem.

Our capacity market -- as has been referenced many times -- our capacity market for mid '25 to mid '26, cleared much higher than the previous auction. And, the market is essentially holding a mirror and reflecting the reality of the supply-demand challenge, not only to all of you, but to all of our other states as well. In fact, there are zones that had a much higher auction price -- auction clear -- than yours from the last auction, specifically in Maryland and in Virginia as well, where you're seeing a lot of data center growth at a higher auction clears. And, we certainly feel for New Jersey consumers -- and, consumers, frankly, in all of our states who are going to pay higher prices. *But*, sending this price signal -- and, this is a thing we haven't, we have not talked about here; it's just sort of a markets construct -- sending this price signal is how a market is supposed to work to attract new generation onto the system. Because, we're just sort of stating the obvious here. These developers, they're not going to build generation for free. They

need an incentive to invest their capital, and the market price, ultimately, is that incentive.

Now, I've made some recommendations in my testimony, and I hope it's OK that I make recommendations. At the end of the day, we're all in this together. We are a grid operator-- Just a few quick things about PJM.

We effectively operate as a not-for-profit. Our budget, ultimately -- as opposed to a not-for-profit board -- our budget goes to the Federal Energy Regulatory Commission. I used to be a regulator for many years; any time someone would come and talk to me, I would think in the back of my head, "What is this person's motive?" I have no profit motive to be here. We're just trying to keep the lights on -- hence, why I think we're all in this together, trying to balance the sort of very delicate ecosystem of reliability; of cost; and, of policy again.

So, I hope it's OK-- And, once again, we are fully regulated by the Federal Energy Regulatory Commission. So, we've spent some time talking about market rules -- PJM's market rules. "PJM should have done this on the market rule side," "PJM should have done that on the market rule side." We can't change our market rules unless the Federal Energy Regulatory Commission says, "You can change your market rules." We are consistently intaking feedback on our market rules.

To BPU's credit -- and, to others' credit -- they said, "Hey, these few things -- you guys should think about changing that up." We looked at it, we said, "Hey, makes sense to us," submitted it to the FERC. There were others who did *not* think that it made sense, but, generally speaking, we agreed, ultimately, with some of our states and others. And, we

changed-- We filed an application with the FERC to change those market rules. Anybody at *any* time -- not just PJM -- can file something with the Federal Energy Regulatory Commission saying, "Hey, PJM should change those market rules." We are by no means a monolith, all right. I would think of us more so in the vein of, for instance, my colleagues here from Public Service, who have a regulator -- the Board of Public Utilities. We have a regulator -- the Federal Energy Regulatory Commission. So, we just don't, like, hang out in Pennsylvania and just do what we want. There is quite a bit of-- There's manage-of-member services side as well. We have over 400 public stakeholder meetings a year. And, again, everything that we do is filed with the Federal Energy Regulatory Commission, ultimately, for approval.

Enough of my PJM, "Here's who we are," but let me just talk about the recommendations a little bit.

So, we're talking about demand; we're talking about supply. On the demand side, the industry is legitimately struggling with the sort of "what is real" on these data center forecasts. It is not an easy issue to unpack. How do *we* do load forecasting? We get information from our transmission owners that then bleed up into the overarching load forecast. Those transmission owners are getting information from their distribution utilities. So, one recommendation that is in my testimony is that some states are looking at this, and they are requiring certain gating criteria -- namely that these data center owners put money down up front. If your utilities can better discern who is actually real, that will then lead up to the information they provide to transmission owners that will eventually lead up to the information that we intake to create our load forecasts.

States that have done this: Ohio; Indiana; one other one recently, it's escaping me -- I think it's West Virginia. But, there are examples of states that are looking at this to try and sort of make this load forecasting process a little more precise. That's on the demand side.

On the supply side, very simply, we have to think about shutting any additional generation down. We're now in this sort of reliability cost policy delicate ecosystem again. New Jersey does, in fact, have regulations on the books. There are mission limitations regulations. They will require shutdown of particular resources -- I believe by 2027 and then 2034. It's roughly two gigawatts of resources, based upon our math. We've received retirement notifications last year *and* this year; retiring resources primarily due to some of these pressures that these units are experiencing and unable to comply with that regulatory framework--

SENATOR SARLO: If you could just kind of bring it to a head here--

MR. HAQUE: Yes, wrap it up--

SENATOR SARLO: --I don't want to--

MR. HAQUE: I'll wrap it up; I'm sorry.

SENATOR SARLO: Yes.

MR. HAQUE: I'm sorry.

SENATOR SARLO: I want to get to the Q&A part.

MR. HAQUE: Yes, absolutely.

So, again, existing-- So, existing supply, you just have to be careful about shutting down--

SENATOR SARLO: Just, please, don't filibuster.

MR. HAQUE: Yes.

--really careful about shutting down existing supply. Talk to developers; renewable developers alike -- there's one in the room right here -- about what they perceive to be challenges within the State -- red tape, conceivably -- associated with being able to get online. They've got permitting and citing challenges, and other challenges as well. I think that is another very good step -- is there a way to better streamline that?

And, the last thing on the supply side, which is a little more obscure, it's a concept of demand response. I think we're going to need a lot more demand response as a product to get through this sort of mid-term period. And, it's something that we can spend some time talking about. It's basically the ability to curtail during times where we're really challenged. We'll look at our -- we will continue to improve our market rules. We'll look at our market rules today. We got a letter from BPU; we're happy to look at that letter, and any market rules that make sense to evolve -- we'll evolve them. There are people consistently saying, "Hey, you should look at this market rule or that market rule;" it gets filed with the FERC; FERC ultimately approves it.

We're happy to look at our market rule, but I would -- my only suggestion for BPU, conceivably, is to look at default service procurement -- specifically whether or not there is a hedging mechanism, because we are going to be in this high-priced environment, conceivably, for some time. Is there a way to better hedge this capacity price? This is a component of a component of a component of the total bill. And, we also need to look at total bill as well; distribution charges; any special programs. Because, this is a going to be a challenging time for consumers, so knowing

that we're in the supply-demand conundrum, do other things now have to take a back seat? That would be my only recommendation for BPU.

With that, I am done. I apologize if I was long. And, I am happy to intake any questions.

SENATOR SARLO: Co-Chair DeAngelo.

ASSEMBLYMAN DeANGELO: So, thank you again for coming.

I took, in my Utility and Telecom Committee, to tour your facility back in the fall. We talked about your generation capacity for the 13 states, and it was said when we were there that, on a bad day when we had strong demand, that we were -- around 160,000 gigawatts would be in demand.

Can you explain what happens as we approach your capacity generation?

MR. HAQUE: Sure.

So, we actually-- We actually experienced our all-time peak -- our all-time winter peak -- just this past MLK weekend. And, you probably didn't realize it, but -- and, that's the way we like it. We try and operate the grid and do it in a manner that is -- you don't -- you have actually no notion, even, that keeping the lights on is challenging.

We had -- our last winter peak was -- our winter peak is about 145 gigawatts; our summer peak is about 165 gigawatts. Now, when we start to approach those numbers, and if we are challenged on the resource side, we undertake-- We'll just characterize it as a whole protocol that we undertake, that is not only sort of just PJM developed, we also have the North

American Electric Reliability Corporation that promulgates standards and audits this as well.

Bottom line is that, as we continue to progress and we get -- we start to shrink the supply and the demand increases, we will have to start deploying some of these more emergency procedures, which we hope we never get there; could actually be, "Hey, we need to shed load." We need to actually-- We actually need to ask our utilities to shut down power. We try to have-- We will unequivocally try *not* to do that, but it is conceivably an outcome as we continue to approach this supply-demand imbalance.

Now, look, like I said, these things exist in a very delicate ecosystem. We're going to have a much different conversation here next year, or the year after, or the next time I come here, if we had to shed load; if we actually had to shut customers off, or ask our utilities to shut customers off, to save a cascading brownout or blackout.

ASSEMBLYMAN BARRANCO: You're talking about rolling blackouts?

MR. HAQUE: Correct.

ASSEMBLYMAN DeANGELO: Hold on one second, Chris.

ASSEMBLYMAN BARRANCO: Sorry.

ASSEMBLYMAN DeANGELO: How do you communicate the demand on the grid to the community, to the states? Because, listen, when we were there, we saw how you partner up with the Midwest grid, and we're not the only ones who are shy with generation needs. This is a national problem--

MR. HAQUE: Yes--

ASSEMBLYMAN DeANGELO: --I think you said that -- not yourself, but one of the staff -- said that day that one of the Midwest grids that we connect to is losing 6 gigawatts, potentially, worth of generation. That's someone we would go to try to get power from to supplement our grid.

As you're just talking to one of the 13 states, where do you see the demand? Where do you see concerns, and how do you communicate, "Hey, listen, you have a hot spot here, and it's a problem?" And, you need to focus on this region-- Or, how do you communicate with the -- with us?

MR. HAQUE: That happens primarily through our transmission owners, who then communicate to our distribution utilities, who are, generally speaking, the better boots-on-the-ground than us. We have established our own sort of communications regime, which would primarily consist of organizations like BPU, and, generally, emergency management if they want to be included; an emergency management agency if they want to be included in those correspondences.

But, the actual engineering component happens through transmission owner; through distribution utility. Communications to your customer base would likely happen through the distribution utility. We will be communicating with government that has self-identified that they want to be communicated with when there are these challenges.

ASSEMBLYMAN DeANGELO: OK, thank you.

And, just, more for the Committee, as I said earlier, you just heard his peak gigawatt usage for winter. And, as people are considering issues, moving towards heat pumps, you can see -- or, whatever it may be -- you can see the demand on top of that when they exist, three quarters of your

homes are already heated with natural gas, what that would do to the grid. So, that is a concern.

Thank you.

SENATOR SARLO: Assemblyman Barranco, I'm going to -- I've got to defer to your colleague--

ASSEMBLYMAN BARRANCO: Always senators first -- always senators first--

SENATOR SARLO: --Senator Bucco before you because--

ASSEMBLYMAN BARRANCO: Yes, well, please. Don't go -- don't start that one.

SENATOR BUCCO: Thank you.

Thank you, Chairman.

And, you'll have plenty of time, don't worry.

SENATOR SARLO: (laughter)

SENATOR BUCCO: Thank you, Chairman.

Thank you for being here today. I appreciate your honesty and your forthrightness on this.

I'm correct that you stated in the beginning that State policy plays a role in the pricing mix, correct?

MR. HAQUE: Senator, it does. And, the reason is that State *and* Federal policy have the ability to influence the supply side of our auction, and then that supply side interacts with the demand and creates a clearing--

SENATOR BUCCO: It creates-- It's just a matter of economics.

I mean, I know everybody keeps saying that this is a complicated system, and -- and, I don't know, maybe I'm just simple -- but, I just don't see it. Because if you take the Murphy administration's policy -- which started seven years ago, or so -- to completely put the brakes on other alternative energy generation and shift to a completely renewable supply that's not built out yet; and you have policies that are generating more electricity through electric vehicles; policies for complete electrification through 2035; I don't think you need to be a rocket scientist to figure out that if you're shifting to an area that we don't have 100% completely constructed and have the ability to generate the energy we need, and on the other side you're increasing demand, that's why we're here today.

And, those are the exact alarms that PJM, NERC, and many of the other experts have warned about for the last five years -- including the colleagues in my caucus and in the Assembly caucus. So, I don't see it as -- as being very difficult to understand what's happening here. And, I guess what we've been saying is this policy that the administration has shifted to, in the beginning with this Energy Masterplan -- it's too much; it's too fast; and, at what cost? At what cost?

And, don't get me wrong, all of us want a clean environment. We all support renewable energy. But, you can't have policies that stop the generation side of alternative energy sources without coming to this point. And, I think that's what's happened. You stated that there were-- You've gotten notice of retiring resources. What industries-- Where are we talking about those that are retiring?

MR. HAQUE: Sure. These are primarily natural gas resources that are retiring. There's not a coal plant left in New Jersey. So,

when we're talking about meeting CO2 emission regulations, we're really talking about the natural gas industry. And, the most recent retirements are Carll's Corner, Mickelton, and a few different turbines in Sayreville and Sayreville Units.

SENATOR BUCCO: So, those policies of increasing -- in making it more difficult for them to produce energy -- is essentially driving away investment, which means that that generation is going to continue to shrink.

MR. HAQUE: Yes, you bring up a really good point. And, this is where things get complicated. And, it's a conversation to be had with just developers who are out there, which is, that if the policy of the State were to shift, and say, "We need new natural gas," if that policy were to shift, in talking to the investment community -- because we spend a lot of time trying to, of course, figure out if these markets are going to work -- we don't want to run a marketplace and have consumers pay for something if, ultimately, the market signal is not going to incentivize new generation.

And, I think that private dollars are concerned about coming to New Jersey specifically to build new natural gas. Because, what the concern is, is that, even if -- first of all, you've got CO2 regs that are on the books right now -- that's thing one. And, then, thing two is, what will be sort of the policy tenor of the State if they need 10 years, effectively, to collect on the investment of their capital?

And, so, I think you bring up an interesting point. It's a challenging point to try and deal with, but, again, ultimately, that would be the decision of the policymakers in this state--

SENATOR BUCCO: Correct--

MR. HAQUE: --around whether or not it wants to say, "We are open for business for new natural gas resources."

SENATOR BUCCO: So, if we want to increase supply, we have to change these policies that are preventing the investment here. Because-- And it just, again, it's just common sense. If you're telling somebody, you're telling the market that we are going to be completely electrified by 2035 -- 10 years from now -- who is coming in here to invest? We're going to be-- We're going to be forced into a complete renewable market, which, investors, by the way, don't just -- you don't get private money just coming in to build those facilities without Federal and State subsidies.

So, as to the Assemblyman's point, they cost higher -- the generation costs are higher, which means our ratepayers are going to be saddled with those costs. So, anybody who says that this Energy Masterplan is not driving these increases in rates is just not being honest with themselves. Because, it clearly is.

Again, I'm trying to break this down into the simplest math here. But, it's pretty easy to see when you look at the policies and you listen to the experts. And, for the BPU to stand there and say, "Well, we don't know, we're going to look at everything, we're going to talk about natural gas. But, by the way, you can't get a permit to do it anyway," is just ridiculous. It's ridiculous, and you said something else -- you said there might come a point where you're going to have to tell the utilities to shut down. What's that? That's a brownout, right? That's your lights go out. Am I right?

MR. HAQUE: It's load shed that could conceivably lead to blackout conditions.

SENATOR BUCCO: Right.

So, let me just say this. There are a lot of folks -- the Governor; some of my colleagues on the other side of the aisle -- who want to make New Jersey the California of the East Coast. Well, let me tell you something. California goes through this every summer and every winter. I don't want New Jersey to be the California of the East Coast. I want our folks to have reliable energy at a reasonable cost. And, we need to change the policies to do that. It's very simple; it's not hard.

And, I appreciate your testimony.

Thank you.

SENATOR SARLO: Senator Ruiz.

Senator-- DeAngelo--

ASSEMBLYMAN DeANGELO: Just real quick, before you jump in.

I think it's-- Sometimes the Committee gets a little above themselves. And, I just want to make note that no matter what we do to try to move New Jersey, there's 12 other states that are engaged with this total number. You've got to be mindful of that.

So, no matter what we do, 12 other states, if they don't get on board and start doing the same thing, the problem is still there.

All right, thank you.

SENATOR RUIZ: Thank you, Chairmen -- both.

I apologize in advance if I am naïve in this space. Energy, I have a lot of; understanding all of it, not so much.

In your remarks, as I was listening in the back room, you said you're making policy recommendations. But, it isn't the priority of your institution to onboard these projects to help offset some of the consequences that we're seeing now. Currently, New Jersey is waiting for 79 projects to get onboarded -- I think it's a total of 1,600. You're making policy recommendations, but it appears that the primary responsibility of your institution is not even being met. Can you speak to why the backlog?

MR. HAQUE: Sure I can.

So, this is in regards to our generation interconnection queue. The queue is the line that generators get into in order to connect to the power grid. We have to study any generator that wants to plug into the grid. You can't just plug into the grid; the grid is a marvelous machine. There could be electrical challenges without studying a generator who wants to connect to the grid.

In the 2019-2020 timeframe, we started to see the number of projects that are in the generation interconnection queue start to increase massively. And, what were those projects? They're primarily -- primarily solar. Wind projects as well, and some smaller duration battery storage projects. And, the queue was designed to push these large thermal resources -- the last sort of trend of resources that found their way to the system were natural gas resources -- these huge resources through the queue.

Well, now what we were experiencing were much smaller resources -- much, many more of these resources trying to find their way through the queue. So, we had a process that fit our generation mix, and we had to evolve that process. And, so, we immediately got to work. We started having public meetings about this, and we ultimately were able to make a

filing in 2020 -- 2021 -- we started stakeholder discussions in 2020, and ultimately the Federal Energy Regulatory Commission approved our queue reform effort in 2022. So, we are doing everything that the Federal Energy Regulatory Commission has told us to do.

Through that process, we're unclogging this sort of massive influx of projects that we -- that found their way into our queue. Through this, FERC approved reform. We've already pushed 50 gigawatts of projects through the queue; this year, an additional 18 will be pushed through the queue, studied, and hopefully there are not dropouts. We had a lot of dropouts. And, then, next year, 50 gigawatts through the queue. Starting next year -- towards the tail end of next year -- we will be through this queue reform process. Every project that comes through, we'll have a one- to two-year turnaround timeframe when they submit their application.

And, so, Senator, I certainly understand that there are concerns around sort of timeframe in order to unclog the queue. Again, we're following what our regulator has told us to do, and we're experiencing success and moving projects through the queue right now.

SENATOR SARLO: Assemblyman Sauickie -- since you went first last time, we're going to do Assemblyman Sauickie.

Then, Senator Burzichelli, and then we're going to go back and forth. We're going to get everybody.

ASSEMBLYMAN SAUICKIE: All right, thank you; thank you, Chair.

And, thanks for being here.

You started off by saying you have nothing negative to say about the BPU, which I give you a lot of credit for, since I did read the letter

that they sent your organization on March 25. Is that the first one this year? Do you know?

MR. HAQUE: From specifically the BPU?

ASSEMBLYMAN SAUICKIE: Yes.

MR. HAQUE: I believe so.

ASSEMBLYMAN SAUICKIE: OK, well, she got it in right under the wire; it's dated March 25; today is the 28th. So, I'm glad they sent you a letter.

And, the letter, I think, points the finger very squarely at the PJM. It says the cost of the PJM mistakes to New Jersey consumers in the July 2024 capacity auction alone will be at least $800 million. Doesn't sound like they're not pointing fingers at you to me. I mean, it sounds like they're blaming you guys.

They went on to say PJM's failure to recognize that natural gas powerplants and other fuel-burning generators can produce more power in the winter causes PJM's model to significantly understate their contribution to grid reliability. This actually is saying you guys should be doing more natural gas, and you're not. I mean, it actually is chastising you for not doing more natural gas, which is very contradictory to what I think we heard earlier.

So, again, I appreciate your comments at the beginning, not pointing fingers at them. It doesn't seem that's the case there.

With respect to policies, I think-- I *think* we've established, at this point, that policies from this administration have contributed significantly if not the root cause of the problems we're dealing with right here. The thing I want to underscore-- We talked a lot this morning about

policies affecting supply. Those same policies -- we sort of said it, but I want to be clear about it -- those same policies also affect the demand. And, I would argue a little bit with you on we didn't see it coming. I would say some things, we didn't. You talk about things like AI -- that stuff consuming the amount of power that has -- no, I would agree with you, we probably didn't see that one coming.

But, when you have policies from the beginning -- seven-plus years ago -- that say, "Hey, we want more electric cars; we want more electric appliances; we want warehouses and large buildings to be bought, be constructed with electricity focus in mind," you kind of knew that stuff was going to happen. So, those policies were being enacted.

Last year, the Governor said he wants us to be the AI State. Again, when you know AI consumes a lot of electricity -- and, I mean, there's no question about that. I mean, there was a question earlier about, "How do we know?" Read the paper. I mean, it's all over the country they're talking about it. And, the largest companies that specialize in AI are investing heavily -- or making deals with -- power companies to make sure that they have the power.

So, again, you can state it, but even that -- as much as I love the idea of being the AI State -- you can't just say these things and not be prepared to support them. And, again, it seems like even that statement last year, it was very -- it was great optics, but I don't think it really considered what would be needed.

I know I'm saying a lot; I'll ask you some questions.

You said we had a lot of supply at one point, and low demand. When did that shift?

MR. HAQUE: Boy, I would have to-- I need to go back and look at New Jersey's supply-demand mix over the last several years. Obviously, a shift away from coal; shutting down Oyster Creek; shutting down a few additional resources that has an impact. But, I would need to go back and take a look--

ASSEMBLYMAN SAUICKIE: OK, well--

MR. HAQUE: --but, I can get you that information.

ASSEMBLYMAN SAUICKIE: All of which happened under this administration, in the last seven years.

MR. HAQUE: I, truthfully, don't know.

ASSEMBLYMAN SAUICKIE: All right, well, Oyster Creek closed in 2018. And, the other five were within the last seven years.

I don't want to misquote you. Nuclear -- you mentioned about nuclear. Was it 96% reliability? Was that the--

MR. HAQUE: Yes, 95% reliability. It's a metric that we utilized called "Effective Load-carrying Capability." And, it's basically a metric that we are able to apply to resources. Because, again, not all of these resources deliver the same level of reliability during our riskiest hours and our riskiest days.

ASSEMBLYMAN SAUICKIE: Right.

MR. HAQUE: So, we have to apply, sort of, this metric.

I've got a full table that I'd be able to provide to you at some point that lists out all of our fuel types, and all of the different -- we'll just characterize it as reliability percentages attributed to all the different fuel types--

ASSEMBLYMAN SAUICKIE: Yes, you can probably tell I'm a numbers guy; I love numbers.

So, 95% reliability. I think you said solar was 9%?

MR. HAQUE: For our '26-'27 auction that we're going to run in July, the numbers are -- nuclear is at 95%; fixed-tilt solar is at 8%; tracking solar is at 11%; and, I've got more numbers for any other resource type that you're interested in.

ASSEMBLYMAN SAUICKIE: OK, now, that's--

ASSEMBLYMAN DeANGELO: Assemblyman, just real quick -- if I could just interject one question, just for clarification for you.

So, when you discussed shutting down Oyster Creek, and then some of the gas stations that were shut down in '18 as well--

ASSEMBLYMAN SAUICKIE: Yes.

ASSEMBLYMAN DeANGELO: They don't shut down overnight.

ASSEMBLYMAN SAUICKIE: Yes--

ASSEMBLYMAN DeANGELO: So, the process when Governor Murphy took office in '18 the process started years before with the prior administration.

ASSEMBLYMAN SAUICKIE: Yes, I do get that. I would argue, though, some things could have been done to save some of that. I don't think-- I don't think it had to close, necessarily. I get it may have started, there may have been a discussion. I'm going to keep going, though.

If-- If we thought about what we would need to do to address the supply issue here, how many nuclear plants would it take to address the supply issue in this state right now?

MR. HAQUE: So, again, as Chairman DeAngelo did say, we are part of a regional grid here.

ASSEMBLYMAN SAUICKIE: Yes.

MR. HAQUE: And, so, when we're looking at the supply-demand balance -- or imbalance, however you want to characterize it right now -- our reserve requirement is we are barely above our reserve requirement.

And, so, I think it is difficult to-- It is difficult to say, "Here is exactly how many plants that we would need, because demand is also a static issue as well." What I can say is we -- we are effectively saying, "Whatever supply--" and, this is -- we are not an anti-clean-energy organization. We are very happy to have all of these renewable resources that have cleared the queue and that are in our queue to connect to the system. We need those watts. We actually very much need those watts.

Now, again, they are not a one-for-one swap, for instance, when you shut down a coal plant, or a gas plant, or a nuclear plant. And, so, ultimately, this ends up being a forecasted demand; how-much-supply-are-we-going-to-have math problem.

ASSEMBLYMAN SAUICKIE: Yes.

MR. HAQUE: And, so, for-- If we were-- If we were down-- If we were down, say, 6,000 megawatts below our reserve requirement, then we would need four nuclear plants.

ASSEMBLYMAN SAUICKIE: OK.

MR. HAQUE: If you say average 1,500 megawatts -- which is big--

ASSEMBLYMAN SAUICKIE: You kind of made my point for me. You're saying that, hey, closing one nuclear, one natural gas

plant, and then some of these other things that we're looking to bring on -- not necessarily one-for-one. And, I think what you're saying is, in most cases, they provide less, right?

MR. HAQUE: Yes.

ASSEMBLYMAN SAUICKIE: So -- yes.

So, again, and I agree with you wholeheartedly -- and a lot of us have said this -- all for alternative sources. The problem with this policy that's been enacted over the last seven years was execution. If we had gotten the wind up, great. If we had gotten solar up, great. But, we didn't. We took the supply out, and we didn't get the additional supply and alternatives up and running.

MR. HAQUE: Well, and I want to add one more thing, because I've been throwing these numbers out there. Offshore--

SENATOR SARLO: You have about two minutes left, so if we could just kind of get to the point.

MR. HAQUE: Yes, sir.

Offshore wind is actually a really reliable resource, *if* functioning; *if* running. I mean, that percentage is at 69%.

ASSEMBLYMAN SAUICKIE: Right.

MR. HAQUE: And, so, to the extent that we would love to have offshore wind on the system; it would be a great addition to the system. So, the industry sort of is where it is. There's-- We'll continue to-- We'll continue to work with BPU to try and make this happen, in a reality, to the best of our ability.

ASSEMBLYMAN SAUICKIE: And, Chair, I'm wrapping up, OK.

Yes, well, again, even with wind, I really take offense to anyone pointing to the Federal administration, where they had four years of support, and the last eight years in this state, where they had eight years of support, and not getting it done.

So, again, I think the issue has been execution on that. Not necessarily against it.

Last thing I wanted to ask you. What can we, as a Legislature -- in supporting, hopefully, a change in policy -- what can we do that could help the PJM reduce costs in supply to the state?

MR. HAQUE: It's a combination of -- and, I put a few things in the sort of recommendations component of my testimony.

On the demand side, helping us to figure out what's real in this sort of data center electrification, etc., space. On the supply side, it's -- again, it's -- it exists in a competitive markets jurisdiction here. But, on the supply side, any red tape that is creating challenges, with just people building stuff is sort of one concept to spend some time thinking about.

I also referenced this concept of demand response. And, we can spend more time on this down the road, but I do think that in this sort of midterm period that we're in, that that's going to be a pretty critical resource for us. And, I'm trying to think if I made any other supply side recommendations.

Oh, yes. There are regulations on the book that are CO2-emission limitation regulations. And, you have to consider whether that's based on what's going on right now, now that costs are impacted; whether that is the right thing on a going-forward basis.

ASSEMBLYMAN SAUICKIE: Right.

Thank you; thank you, Chair.

SENATOR SARLO: Senator Burzichelli.

SENATOR BURZICHELLI: Thank you, Chair.

And, welcome, as well.

Thank you.

MR. HAQUE: Thank you, Senator.

SENATOR BURZICHELLI: And, we do appreciate the recommendations. And, I'm going to offer you a recommendation to take back to PJM--

MR. HAQUE: Of course--

SENATOR BURZICHELLI: --and, that is to tell someone to wake up and realize that affordability is an important component. Because, I get a direct sense with the sophistication of PJM and its structure, that it is a house of engineers -- as I have great respect for my Chairman, of course, who is an engineer.

But, I also-- I also get a read that the focus is how much electricity is coming in, and how we're going to move it, and what we think we're going to need. And, no one seems to be paying attention to what it costs. Because it's just going to move down the line. BPU will take care of it; this will happen; that'll happen.

So, a couple questions that we didn't get answered last time, when we had one of your colleagues in. And, by the way, my tone may seem strong--

MR. HAQUE: Sure--

SENATOR BURZICHELLI: But, don't take it as being -- you being unwelcome here.

MR. HAQUE: Thank you.

SENATOR BURZICHELLI: We're happy to see you. We don't understand you.

(laughter)

SENATOR BURZICHELLI: We don't understand why BPUs that make up the 13 states are not represented on your board. We don't understand the steps that it gets to get your attention -- not you personally -- to get the organization's attention. And, we have a serious issue here.

MR. HAQUE: Sure.

SENATOR BURZICHELLI: And, I, as a layman, and a legislator, have just some basic curiosities. Because, what I see here is the generation auction went sideways. Not a little -- almost a 10-time increase. Now, if we're building a road project in New Jersey -- and, believe me, we understand competitive bidding; we understand collusion; we understand people going to jail; we have all kinds of things. None of that is new to us.

(laughter)

SENATOR BURZICHELLI: But, you ran an auction -- not you, again, personally. PJM ran an auction that came back with a result that, had it been a New Jersey public school, the bids would have been thrown out. And, the general contractor would have gone to all the bidders in the room and say, "What happened here, fellas?" Not to be gender specific.

What happened? Now, I read the notes from your group; I read everything, with respect to, "Well, there's high demand, and we have to have a preparation of this --" all very understandable. So, the generators come back and say, "We can bring you this electricity; we can do this. It's

close, we'd like to have more room; it's close. We can do it, but it's going to cost you 10 times more." Did anyone ask that question that is, "Why?" Just because the market was having a demand, did anyone say to them, "Did coal go up 10%? Did natural gas go up 10%? Did nuclear rod replacements go up 10% --" not 10%, 10 times; not 10%, 10 times.

So, let me ask it this way. First of all, how many generation entities are there that participate in your auction? Entities, not power plants.

MR. HAQUE: Many. I don't know the answer to that, unfortunately. Many.

SENATOR BURZICHELLI: I would think that's an answer you should know--

MR. HAQUE: Sure--

SENATOR BURZICHELLI: --and, I asked that last time, and we didn't get an answer. Is it 13, is it 27, is it 50? It's an important question.

So, you don't know?

MR. HAQUE: I don't know the exact number of generators that participate in the marketplace--

SENATOR BURZICHELLI: Well, do you have an estimate? Do you have a staff member here who can tell you? Does someone know? How about take a guess? I mean--

MR. HAQUE: I'm going to say over 100.

SENATOR BURZICHELLI: OK. Entities--

MR. HAQUE: Entities--

SENATOR BURZICHELLI: --not plants--

MR. HAQUE: Entities.

SENATOR BURZICHELLI: So, a hundred different entities.

MR. HAQUE: Sure.

SENATOR BURZICHELLI: OK.

So, this group has said to you, "We can generate this electricity, but it's going to cost you 10 times more in this projection," correct?

MR. HAQUE: Correct.

SENATOR BURZICHELLI: So, did anyone at PJM -- did that get anyone's attention?

MR. HAQUE: Sure--

SENATOR BURZICHELLI: Did anyone bang on a table and say, "Woah, woah, woah, 10 times?" We can understand cost of inflation, plus -- there can be some plus. We can understand it. You were asking certain generators to stay online with older facilities that could cost a higher amount, but that can't be a full -- that's got to be a small percentage of the overall generation approach, I would think.

So, what happened inside PJM when this came back at 10 times-- Now, you're a person who visited us before, saying, "Well, it was nine, not 10." But, I'm saying 10, because I feel in a dramatic mood at the moment, so I'm saying 10 times. What happened? Did anybody bang on a table? Did anyone say, "Let's get these guys in--"

MR. HAQUE: Internally at PJM?

SENATOR BURZICHELLI: Yes, does anybody ever bang on the table? Do you have a table?

(laughter)

MR. HAQUE: I don't think that anyone banged on the table. I think what we said was, "Oh boy, this supply-demand thing happened sooner than we expected."

SENATOR BURZICHELLI: I don't find that acceptable. Only because when I say that to you, I'm just a lowly Senator sitting here.

That would not have been my reaction. My reaction would have been -- because I've worked in project management on construction jobs -- get these people in this room. We've got to talk to these people.

Is there any-- Do any of the 100 or so generators have any seats on the PJM board?

MR. HAQUE: No.

SENATOR BURZICHELLI: Anybody represented?

MR. HAQUE: Nope.

SENATOR BURZICHELLI: OK.

Do any of our BPUs have a seat on your board?

MR. HAQUE: No. Our board is independently elected by--

SENATOR BURZICHELLI: That's OK -- it's fine.

MR. HAQUE: And, one more thing, but I did want to add this: Which is that we do have a market monitoring function. That market monitor, his entire purpose is to make sure that there is not market manipulation, because--

SENATOR BURZICHELLI: Yes, and--

MR. HAQUE: --I think some of what you're suggesting is that there could have been that.

SENATOR BURZICHELLI: Well, no, does he still have a job?

MR. HAQUE: He does.

SENATOR BURZICHELLI: After seeing these numbers?

MR. HAQUE: He does.

SENATOR BURZICHELLI: And, again, was there any follow-up, any internal investigation, as to what contributed to a 10-times increase in one movement? In one auction setting?

MR. HAQUE: I think part of what-- The BPU sent us a letter, and the market monitor has commented on the auction itself. You'll hear from Mr. Lipman. I think what you're going to hear is that some of these market rules -- some of the market rules -- and, it is a very complicated auction place--

SENATOR BURZICHELLI: I know, I--

MR. HAQUE: But, some of the market rules--

SENATOR BURZICHELLI: You--

MR. HAQUE: --should be changed--

SENATOR BURZICHELLI: --you have been very good about supplying that information of the environment you work in. But, that's not a new environment. Your environment is about to change, because FERC has granted some things to happen; suggestions are made; all good news.

And, by the way, it gives me no confidence when you say FERC, by the way. And, who knows if there's going to be a FERC in three weeks.

(laughter)

SENATOR BURZICHELLI: I mean, I don't think Elon Musk has gotten there yet, so God knows what we're heading into, if that's the group you're answering to. You have nothing but chaos in Washington at the moment -- just because there's change.

MR. HAQUE: Sure.

SENATOR BURZICHELLI: I don't want to offend any of my Republican friends. When there's change, it's just change.

So, the rules you were functioning in in this auction were not new; they were the old rules.

MR. HAQUE: The bulk of them are pre-existing rules that will continue to be--

SENATOR BURZICHELLI: Correct--

MR. HAQUE: --the rules going forward.

SENATOR BURZICHELLI: Correct.

So, again-- And, very simple.

Chairman, I'll close on this, because my other colleagues are going to pick up the discussion, the hypotheticals of market demand; of AI; all the various other things.

Excuse me, I have a note passed to me. One of my colleagues, who will not have a chance to ask a question later, has asked me to ask about membership. How do people find their way onto your board?

MR. HAQUE: How do people find their way onto the PJM board?

SENATOR BURZICHELLI: Correct.

MR. HAQUE: There is a nominating committee that consists of five sectors of the membership. We have over a thousand members in the membership.

SENATOR BURZICHELLI: That's -- can we join?

MR. HAQUE: So, those are end-use customers all the way through to utilities.

SENATOR BURZICHELLI: OK.

Again, two things back to -- when you go back--

MR. HAQUE: Sure--

SENATOR BURZICHELLI: --affordability's gotta be in this. This should have stopped when these auction results came in, and the group recognized what these numbers were. People should have -- they should have got people in the room -- my opinion -- and knocked heads and said, "What happened here?" We can't-- We can't move this on this way. We've got major problems going on as it is; we can't pass this on. Because, it almost seems like the generators got together and said, "It's our turn. It's our turn; we're taking our piece."

Now, I get the idea about market incentives, and that if there's enough money to be made, people will come in. That's all very reasonable. But, there's got to be a different approach for that, as opposed to just saying to the ratepayers, "We're not going to allow charge, this high charge, and more people are going to rush to the market."

And, by the way, why did it take a lawsuit for the ceiling to get reduced? PJM have proposed a $500 ceiling; Shapiro sues; we jump in; others jump in; and, now we're at a different number. How does that happen?

MR. HAQUE: You know, the reason is is because-- Look, in any-- There are a lot of people who opine on all things related to PJM. With the complaint that was filed, there was one kernel of truth there that we felt like, "We agree with you," which is we were -- we were -- we are in the final stages of our generation interconnection queue reform. And, so, it's very difficult on-- It's very difficult to incentivize new supply so close to a delivery year while we are unclogging our queue.

I know I just said a lot. Some of it might have resonated; some of it might not have. But, if you look at-- We are currently undertaking a process to determine what the demand curve is going to look like--

SENATOR BURZICHELLI: While you work, and why -- I'm sorry, I have limited time; both from the almighty--

SENATOR SARLO: I actually need you to wrap up, Senator.

SENATOR BURZICHELLI: Thank you.

PJM is not the enemy. You do a fine job in managing and moving electricity.

MR. HAQUE: Thank you.

SENATOR BURZICHELLI: You're missing the affordability side. It's not acceptable. That message has got to go back loud and clear. It's *not* acceptable. If you need help, if we have to build more plants, we have that discussion. That does not -- that can't be held with our residential and businesses being held hostages by rates they can't afford. We'll figure out how to make more electricity.

Affordability has got to come into the discussion; it seems to be absent. Not without-- You're wonderful, your presentation is

wonderful; I try to understand most of what you've said. But, I've got to go home to an electric bill as everybody else in this room.

MR. HAQUE: I understand, Senator.

SENATOR BURZICHELLI: So, I'll say to you, this auction situation does not seem like it was handled correctly. There are missing points here. Someone should have got in a room -- that auction should have been discarded, and people brought in, and worked through -- like any other government procurement that takes place across this country, in places where they have rules. And, actually, we have rules in New Jersey.

I am very grateful for your time, and I mean that--

MR. HAQUE: Thank you, Senator--

SENATOR BURZICHELLI: --sincerely.

We need help. You're not the enemy. We need help.

MR. HAQUE: Thank you, Senator, I will take--

SENATOR BURZICHELLI: This--

MR. HAQUE: --this message back.

SENATOR BURZICHELLI: --this did not work.

MR. HAQUE: Thank you.

SENATOR BURZICHELLI: Chairman, thank you.

SENATOR SARLO: Thank you.

Assemblyman Barranco, then Senator Smith, and then Assemblywoman McCoy.

Is this a regional problem, or is -- the affordability, as Senator Burzichelli touched upon. Are all the member states having the same issue right now?

MR. HAQUE: If you are restructured -- and, what restructured means, that you deregulated on the generation side -- you are the folks who are primarily exposed to that pricing.

SENATOR SARLO: OK; all right.

MR. HAQUE: But, we have multiple models in our footprint, including vertically integrated, fully regulated models as well.

SENATOR SARLO: Assemblyman--

ASSEMBLYMAN BARRANCO: So, thank you Mr. Chairman, and I want to--

SENATOR SARLO: Followed by Senator Smith.

ASSEMBLYMAN BARRANCO: I want to build on what Chairman DeAngelo said earlier about capacity, and just some of the things that you mentioned.

First of all, I said it many times, electrification is not a political dilemma; it's an engineering dilemma. But, we had a great tour at your facility, and you were incredibly informative to us. I remember in the big, beautiful control room that you have over there in Valley Forge, at the very top of the entire board, it said 180,000 megawatts. And, you made it very clear to us that that is, essentially, the load that you are able to satisfy. Am I right?

MR. HAQUE: Yes. If we're-- If the load is running at absolute full blast, and our generators are actually performing--

ASSEMBLYMAN BARRANCO: One hundred percent--

MR. HAQUE: --at absolute, full blast, that is the most we can satisfy.

ASSEMBLYMAN BARRANCO: So, that is the most electricity that you can deliver to the 12 states that you serve -- or, 13 states?

MR. HAQUE: Thirteen states and D.C.

ASSEMBLYMAN BARRANCO: The 13 states that you serve -- that is the greatest number of electricity that can flow--

MR. HAQUE: That is correct--

ASSEMBLYMAN BARRANCO: --in the system.

So, Chairman DeAngelo said something interesting earlier. Well, based on what you had said about peak loads. So, winter is 145,000 megawatt, and summer is 165,000--

MR. HAQUE: That's correct; rough numbers.

ASSEMBLYMAN BARRANCO: So, just to put numbers -- because, like I said, this is an engineering dilemma, not a political dilemma, and I'm an electrician and a bit of a numbers guy when it comes to construction.

If we're at 165 MW right now--

MR. HAQUE: Yes--

ASSEMBLYMAN BARRANCO: --in the summer. If we electrify everything -- or, excuse me, go back; 145 in the winter. And, we all of a sudden electrify everything, rolling blackouts are going to shut everything down, because we're just not capable of providing that amount of electrical energy. Am I correct?

MR. HAQUE: I don't know definitively if there would be rolling blackouts, but the more you electrify, the more you're adding demand on the system.

ASSEMBLYMAN BARRANCO: The most you get closer to that 180.

MR. HAQUE: That's correct.

ASSEMBLYMAN BARRANCO: So, you had mentioned rolling blackouts also, Mr. Haque. In your opinion, as of this moment, what is the probability of New Jersey being subjected to rolling blackouts?

MR. HAQUE: Probability right now is low, but I can't forecast into the future.

ASSEMBLYMAN BARRANCO: OK.

And, last question. I think you spoke to it a little bit. We have folks here who talk about the wind farm capacity that we're looking to -- so, for example, 1,000 megawatts of wind. Now, when you speak nameplate on nuclear, if a nuclear generator makes 1,000 megawatts--

MR. HAQUE: Yes--

ASSEMBLYMAN BARRANCO: --you're going to get 1,000 megawatts -- or something real close to 1,000 megawatts--

MR. HAQUE: Ninety-five percent--

ASSEMBLYMAN BARRANCO: --because your reliability is 95%, right?

MR. HAQUE: Yes.

ASSEMBLYMAN BARRANCO: So, wind is very different; wind is more like 70%. So, if we have a 1,000-megawatt wind farm that we're talking about, we really can only reliably count on 700 megawatts, right?

So, that's, I think, something that gets lost when we're talking to the public about the assets that we want to build. So, we need to

keep that in mind, folks, when we talk about -- because Mr. Haque has been very clear to us that we need generation. You made it very clear to us when we were at Valley Forge that we need generation. As a matter of fact, the number that you just gave us is worse than the number that you gave us when we were there; you told us 72%; we generate 72% of the energy we consume. You just said that we're generating more like 65% of the energy that we consume, right?

MR. HAQUE: Yes.

ASSEMBLYMAN BARRANCO: So, it's getting worse.

MR. HAQUE: Yes.

ASSEMBLYMAN BARRANCO: So, I think the fact that-- The result is there is no doubt that we need generation, Mr. Chairman. And, I wanted to support some of the things that you had said, and also Co-Chairman Sarlo about other sorts of fire generation. I think New Jersey really does need to start considering that right away.

So, thank you, Mr. Chairman.

ASSEMBLYMAN DeANGELO: Thank you, Assemblyman.

Senator Smith.

SENATOR SMITH: If I might, Chairman, just to add some facts to some of the prior questions.

There was a question about how do you get elected to the PJM board? And, the answer is you get elected by the constituent members; most of the constituent members are energy generators. Maybe that sways what happens at the PJM.

Number 2, Senator Bucco, I think -- and, maybe one of the Assemblypeople -- pointed out that our Energy Masterplan policies are exacerbating this situation in some way. For the record, EVs in New Jersey are 0.7% of the energy load in New Jersey. That's not a lot of demand. And, on the building electrification side, it is virtually zero. So, those policies haven't created the problem.

And, I might add -- just to get everybody crazy -- does everybody know the importance of March 5 of this year, of 2025? Literally 23 days ago? The President of the United States proposed a 10% tariff on Canadian electricity, which we use a hell of a lot of. Just mentioning it.

Now, our witness. You made the statement that forecasting should be a little more precise.

MR. HAQUE: Yes.

SENATOR SMITH: What an understatement. That auction should be invalidated. You don't know -- PJM does not know -- whether these AI data centers are real, or phony baloney. And, I'll tell you that, based on New Jersey's experience-- We had some solar programs that had deadlines, by which if you didn't apply you couldn't get the benefit of the program. We had all kinds of people applying to get their place in the queue; to get a place in the line.

So, the generators now maybe -- and, maybe not -- get a call from an AI data center representative saying, "We're *thinking about* locating in Pennsylvania." No money, no deposit. If they deposited $10 million, that's real; even a million dollars, it's real. But, just to say so -- "We're thinking about it --" gives the generator an excuse -- if they want an

excuse -- to say, "Supply and demand; we're not going to have enough electrons; rates have to go up."

And, somebody explain to me how the rates go up 10 times -- a factor by 10 times -- from one year to the next year, and there's no collusion between the bidders? Really? Nobody's talking to each other, "You know, I think this might be our year for the real big rate increase?"

And, let me ask you another question: Is PJM going to reimburse our ratepayers? What if the data centers aren't built, and we're paying this extra 20% or 25% every month? Do you return the money? You don't -- I know the answer to the question; I don't have to ask you to say yes or no to it.

It's a scam! We are being scammed! There needs to be an investigation of your policies at PJM. If you're not basing it on factual data -- if you don't know for a fact that these AI data centers are coming into the market -- or, for that matter, even crypto mining, which has another energy -- huge energy demand next to it.

Why are you imposing potential preemptive rate increases on our ratepayers? We had a bill -- I don't know if you remember, way back; Ray Lesniak -- talking about preemptive rate increases so we could finance nuclear powerplants in New Jersey. Point is, our legislators realize this is a preemptive rate increase with no basis in fact.

And, when you say we need it to be a little more precise, it really is a huge understatement. I don't think that the auction is valid, and I would respectfully suggest a re-do. After you've actually checked if these are real AI generators who are really going to be in the queue. I think your

rates are based on nonsense. You don't have proof, and you've said it in a nice way -- we really don't know; we rely on our generators.

So, the generators elect the board; the generators are most of the members; and, all of a sudden, all the generators decide we should increase our rates by 10 times. If that doesn't smell like dead fish, I don't know what does.

MR. HAQUE: Senator, may I?

SENATOR SMITH: I think you should.

MR. HAQUE: Yes, thank you.

So, I've got to correct the record here.

SENATOR SMITH: OK.

MR. HAQUE: Many things to correct, actually.

SENATOR SMITH: What's that?

MR. HAQUE: We have many things to correct.

SENATOR SMITH: OK.

MR. HAQUE: So, we have-- We do have many generators at PJM Interconnection. They comprise one of five sectors. Our five sectors are end-use customers; electric distributors -- which are (indiscernible) and co-ops; generation owners; transmission owners; and other suppliers -- which is a collection of sort of partridge-in-a-pear-tree collection.

SENATOR SMITH: OK.

MR. HAQUE: Who elects the board are all five of those sectors.

SENATOR SMITH: How many--

MR. HAQUE: So, they each have--

SENATOR SMITH: How many in each sector?

MR. HAQUE: --they each have one vote, effectively. And, so, even if a generation -- even if the generation developers are in the many, they will ultimately only get one vote through their sector to elect--

SENATOR SMITH: By the way--

MR. HAQUE: --the PJM board--

SENATOR SMITH: Just--

MR. HAQUE: So, it's out of five, is what I would say.

SENATOR SMITH: Is the distribution sector going to get the benefit of the rate increase?

MR. HAQUE: No, they are not. Electric distributors will not get a benefit of a rate increase--

SENATOR SMITH: Utilities will not do any better--

MR. HAQUE: They've got to send those bills to their consumers.

Our transmission owners -- they're nervous, too. These are high prices. They -- through their distribution utilities -- they've got to send bills to their consumers.

SENATOR SMITH: So, who--

MR. HAQUE: End-use customers have to send--

SENATOR SMITH: --who are the beneficiaries in those five sectors? Of the rate increase? Besides the generators.

MR. HAQUE: I would say that no one is a beneficiary, Senator. I think that if that is how the market cleared for the price of power, that is what the generators are saying they need for the price of power.

SENATOR SMITH: Listen, I wish I could believe you, but I can't believe that everybody all at once said, "Ten times higher." And, I

also still have the problem of credibility. You're not sure if these AI data centers are real or not--

MR. HAQUE: Yes, so let's get--

SENATOR SMITH: And, we've seen that. When there's been an incentive, we've seen that, where people try to game the system.

MR. HAQUE: So, let's get to that.

SENATOR SMITH: OK.

MR. HAQUE: So, our forecast is a-- We'll just characterize it at as a long-term forecast; it's multiple years out. As we get closer to running these auctions for the actual delivery year, those numbers continue to firm up. The numbers that we get are from the boots-on-the-ground; the distribution utilities who then say, "Here's who's is actually come into us to--" It's not a generation owner. They actually go to the local utilities and say, "We now need to construct." Those distribution utilities feed those numbers into the transmission owner, who feeds those numbers into us.

I will say, I will agree with you that these are forecasts. And, forecasts are *always*, by nature, incorrect. We -- there are -- there is the ability to better firm up these numbers; there's the ability to better firm up these numbers. I made a recommendation, in fact, of how to better firm up these numbers. Because there are states -- again, this happens at the local level. There are states that are saying, "Hey, we don't want to spend a lot of money speculatively on transmission."

SENATOR SMITH: Right.

MR. HAQUE: Specifically, that's where -- that's where I think the generation is also something -- you mentioned generation, but transmission, there's a lot of transmission that's going to have to get built out

in order to satisfy these data centers. And, I think that there are states that are expressing concern around that. So, there are ways to better gate that. There are ways to better gate whether or not these data centers are real.

But, in the -- as we approach these auctioneers, a long-term forecast that shows, for instance, many, many thousands of potential increase in megawatts of load get better firmed up as we continue to approach--

SENATOR SMITH: Which is why I would respectfully disagree with you that this is a long-term forecast. You have an auction price that's set by a three-year average -- that's as short-term as it gets. You guys should be doing 10- and 20-year forecasts, so that these kind of improvements can be spread out.

MR. HAQUE: Yes--

SENATOR SMITH: To have the 20% rate increase in one year is an abomination. And, you're going to -- you -- I'm sure this is not the first friendly--

MR. HAQUE: Sure--

SENATOR SMITH: --meeting you've been to--

MR. HAQUE: Sure, sure, sure--

SENATOR SMITH: --you've got a lot more in your future.

The other states are going to see the same kind of a rate increase, yes?

MR. HAQUE: Yes.

SENATOR SMITH: So, I think what we should do is contact the other states and request a new auction, and with different -- with legislation that says if you're an AI facility and you want to come to New Jersey, you're more than welcome, but, bring in your energy supply. Our laws

are such that it's easy to do grid-scale solar in Western New Jersey. It would be-- I don't know, I don't want to say it's easy to reopen a nuclear powerplant, but we have a closed nuclear powerplant with 700 acres; build a nuclear powerplant there.

Microsoft, as you know, is buying Three Mile Island and reactivating it. They're providing their own energy supply. The rates are not landing on the ratepayers.

SENATOR SARLO: Senator Smith, I'm going to need you to--

SENATOR SMITH: So, summarizing, bring back the idea maybe we should re-do the auction. Or, maybe we should consider having a policy where if you're going to have a major energy sink, major energy consumer--

MR. HAQUE: Yes--

SENATOR SMITH: --that they bring their own energy in, and not make the ratepayers pay for their improvements.

MR. HAQUE: Thank you, Senator.

SENATOR SARLO: Assemblywoman McCoy, followed by Senator Testa.

ASSEMBLYWOMAN McCOY: So, just first I want to say thank you to our Chairmen for this good conversation on today.

Thank you so much for joining us this afternoon.

Talk to us a little bit about making sure-- When we talk about the access and the impact of the decisions on the retail electricity prices for consumers in New Jersey, what ways are you working to ensure that those

benefits are competitive, coming back to the competitive market to and past the consumers here in New Jersey?

MR. HAQUE: I'm very sorry, I didn't quite understand the question.

ASSEMBLYWOMAN McCOY: So, in what ways is PJM working to ensure that the benefits of the competitive electricity market are passed on to the consumers?

MR. HAQUE: The benefits of the competitive electricity market -- the primary benefit is that new generation, ultimately, does not have to be constructed off of the -- well, I'll just use a colloquy.

When you exist in the competitive market space, you are more exposed to the market price. When new generation comes in to build, that is done by private dollars, and not through a more regulated paradigm like exists in some of our states, where consumers pay for -- they pay for the specifics of that generator getting constructed. So, that ultimately is the benefit of the marketplace, which is, you're trying to procure the power that you need at the least possible price, *and* for new generation to get constructed that is not paid for by consumers.

ASSEMBLYWOMAN McCOY: OK.

And, so, just to kind of piggyback off of Senator Smith, what specific reforms is PJM considering to enhance the market efficiency and reduce the likelihood of price spikes in future auctions?

MR. HAQUE: Yes, we're pretty consistently trying to figure out how to better -- we'll just characterize it as "perfect the market rules to best reflect supply-and-demand fundamentals." So, we are pretty consistently doing that.

The auction-- So, we just finished the '25-'26 auction. We pretty readily thereafter, through the suggestion of a number of entities -- some of them state, some of them members -- we pretty readily started marching down the path of making some market rule changes, because we thought to ourselves, "These are good suggestions that we should adopt before we run the next auction." We made filings with the Federal Energy Regulatory Commission to try and get those market rules changed. They involve things like the reference resource, and they involve things like making sure reliability must-run units can participate in the market.

So, we made those changes; we'll be making those changes in advance of the next auction, which is the '26-'27 auction. And, we are pretty consistently intaking feedback on, how do you better perfect these supply-demand market rules? I think it's building -- like you said, building off of what Senator Smith said. And, to the extent that there is a change to be made, something that we would file with the FERC for their ultimate review and approval.

ASSEMBLYWOMAN McCOY: And, just, from you, what do you think is your role in advocating for policy changes from the Federal level that benefit New Jersey ratepayers?

MR. HAQUE: Our role at the Federal level -- I think that there aren't many folks at PJM like me, who go out and who talk to states, and talk to government. Our role in what we attempt to do is to take the very good engineering and economics expertise that exists within the sort of building at PJM Interconnection, and just try and espouse some of what we're seeing from an engineering and economics perspective to State entities and to Federal entities.

ASSEMBLYWOMAN McCOY: Thank you.

ASSEMBLYMAN DeANGELO: Senator Testa.

SENATOR TESTA: Thank you, Mr. Chairman.

I think we're all here to be solutions-oriented, but in order to come up with a good solution, we have to identify the problem, or the sundry of problems that existed to create this auction cost to explode by over 800%.

Earlier, you stated that we are importing 35% of our energy needs in the State of New Jersey, correct?

MR. HAQUE: Correct.

SENATOR TESTA: OK. And, that our needs currently in the State of New Jersey are 16,000 megawatts?

MR. HAQUE: Your needs -- let me get to -- your peak load over the last four years, 2021, was about 19,000 megawatts; '22 about 19,000 megawatts; '23, less; and, '24 higher -- 19,000 megawatts.

Those are -- that's how much demand -- that's your peak demand.

SENATOR TESTA: OK.

So, how many megawatts do you think that New Jersey is short in what we would need to generate to be 100% efficient as a State of New Jersey? Even if we remain in the PJM.

MR. HAQUE: Yes, so, the Delta is about 6,000 megawatts.

SENATOR TESTA: OK.

What would be your ideal solution to meet New Jersey's current energy needs, and growing energy needs?

MR. HAQUE: Don't shut anything down, and you need new supply.

SENATOR TESTA: OK.

My understanding from speaking to who I believe are the experts -- some of them sitting or standing in this room -- is that the quickest way to get energy online is natural gas. Is that correct?

MR. HAQUE: I think the quickest way is everything that's currently in our queue that we have processed, or will be processing -- which is primarily renewable resources -- to build. I think that is-- That is just naturally the quickest way that's in our queue they should build.

I think another potential path is uprates of existing units. So, if you're an existing unit, and you can increase the amount of megawatts that you're capable of producing, I think that's another way. I--

SENATOR TESTA: Well, hold on right there--

MR. HAQUE: Yes, please--

SENATOR TESTA: --I want you to stop right there--

MR. HAQUE: Yes, please--

SENATOR TESTA: --because that's a really interesting thing that I haven't necessarily heard about increasing the output--

MR. HAQUE: Yes--

SENATOR TESTA: --through what you called uprating.

MR. HAQUE: That's right.

SENATOR TESTA: OK, I just want to make sure I have the lingo correct.

So, how do we allow those plants to uprate? Is there something preventing them from doing that right now?

MR. HAQUE: They have to make the investment. And, so, in fact, we had, in this -- I think I described to you, Senator, this reliability resource initiative. We basically said, "Hey, we need to figure out how we can get more shovel-ready resources that can best contribute to reliability onto the system quicker." And, so, along with what's in our current queue, we opened up this avenue. We got 94 applications; 47 of them were actually uprates. So, someone has to make the affirmative decision that they want to invest to do that uprate. And, so, that's effectively -- either that, or if they're in a regulatory paradigm, be able to recover that through their commission. Or, if they're a fully vertically integrated regulatory paradigm, they would recover that from their commission.

But, that's another way. I think -- so, we talked about getting what's in our queue built out. Uprates; this concept of demand response -- these will be sort of near-term fixes. Longer term, anything we can get, including -- most studies that you read about the combination of the energy transition, which is now inclusive of this increase in demand, we'll say that we need new natural gas.

SENATOR TESTA: So, there were two terms that were thrown about. And, I really appreciate your honesty here today. But, there's been two terms that have been thrown about. One was blackout, and one was brownout.

MR. HAQUE: Yes.

SENATOR TESTA: I don't know that everybody understands the difference between the two.

If you could explain that, because I agree with my colleague, Senator Bucco, and I've said this many times since I've been

elected to office and sworn in in December of 2019, that we can't afford to be the California of the East Coast. And, I mean that, because we see about the rolling brownouts they have throughout the State of California -- I have no clue why anyone would want to mimic policies that lead to rolling brownouts. That seems like what we've been kind of going all in, to use a poker term, in doing with our energy policies here in the State of New Jersey.

But, if you could explain the difference between a blackout and a brownout, I'd appreciate that.

MR. HAQUE: I don't work in operations, but just simplicity, how I view it is brownout would be more attributable to voltage reduction in your home. So, if you're sitting in your home, and your lights and all other capability dim, that, to me, is voltage reduction yielding brownouts.

Blackouts are you got nothing going on in your household.

SENATOR TESTA: OK.

So, in South Jersey, where I'm from, pretty close by we have a company called Holtec. And, I know there are other companies that do this. They're making what are known as small modular reactors. I've heard from friends of mine in the industry that, "Hey, look, we're not supposed to use the term reactor; it's next generation nuclear."

But, we've heard from former BPU President Fiordaliso; we heard from the current BPU President who testified here today that nuclear is clean energy. Is this something that New Jersey should be investing in -- you used that term earlier, investing in -- and, other states that participate in the PJM? Should we be investing in this technology?

MR. HAQUE: Senator, it's hard for me to say what New Jersey should be investing in. But, here's what I'll say:

We talked about this concept of the balance between reliability, costs, and policy. If your policy drive is zero carbon -- decarbonization -- nuclear is also a very reliable asset. And, so, I think that investment in nuclear and new nuclear technologies is -- will be great for the system to check off the boxes. Because, ultimately, if you get enough of those resources on the system, it alleviates the cost -- the third pillar -- as well.

So, we are hopeful for new nuclear technology. I mean, that's another reason why market signals-- So, if you're a technologist, and you have a new product, and you've done all of the R&D to spend a lot of money trying to get your product to commercial fruition, and then you need -- you basically need an ROE or a recovery on that, because you've spent all this money doing this -- you would go to a marketplace, like ours, that is saying, "Hey, you can now come and make money in this marketplace." And, that's the one thing we haven't talked about is part of what the market signal does is say, "Hey, innovators, come here. You can get a return on this technology."

I know I've said a lot, probably, like, rambling at this point. But, I will say that nuclear is a great asset existing, and we are going to need new nuclear going forward.

SENATOR TESTA: Well, and, again, Assemblyman DeAngelo spoke about the diversification of our energy portfolio; currently, nuclear accounts for about 40% of our energy portfolio.

And, I don't necessarily agree with Senator Smith's potential policy of people bringing their own energy, but one way of that

actually being capable for companies to do that -- especially in the AI world -- would be to have small modular reactors attached to those facilities. Is it not?

MR. HAQUE: It very well could be.

And, I actually do think that there are a few data center developers who have entered into agreements to try and develop that out, sort of adjacent to their data centers.

SENATOR TESTA: That sounds like really smart policy to me. Because here's one of the problems that I have: The Murphy administration continues to talk about, "We want to be leaders in everything." And, I think New Jersey absolutely should be a leader. She's been a great leader throughout history. But, we have these potential for data centers, but the actions of the administration -- and the BPU, quite frankly -- haven't matched the words of the administration. Yes, we want all of these data centers, but, oh, by the way, we're going to go to 100% electrification.

And, from what at least the literature that I have access to and I read and digest, is that these data centers do in fact use up a whole lot of energy. And, if we're going to a 100% electrification process, we're not going to be able to have any data centers here in the State of New Jersey.

But, moving along, I have just maybe two more questions.

MR. HAQUE: Sure.

SENATOR TESTA: There's a dispute--

SENATOR SARLO: You've got about a minute left.

SENATOR TESTA: I'm hustling up, Senator.

MR. HAQUE: (laughter)

SENATOR TESTA: There's a dispute about how long it could potentially take to bring a new natural gas generation plant online. How long does it take?

MR. HAQUE: At least five years.

SENATOR TESTA: OK, at least five years.

ASSEMBLYMAN BARRANCO: For new.

MR. HAQUE: For new. For new, yes.

SENATOR TESTA: OK.

So, is it a shorter time to connect a natural gas plant than other alternative forms of energy? Because, I've been told that that's the quickest form of energy to connect to the grid.

MR. HAQUE: Boy, I know you only -- you don't have much time.

SENATOR TESTA: You do; I don't.

MR. HAQUE: (laughter)

SENATOR TESTA: (laughter)

MR. HAQUE: You know, it depends on where they are in the process. There are so many variables that will go into that. It depends on if they've got sight control of their property; it depends on if they're well-financed; it depends on if they've -- if they are going through an approval process through a state citing board for gas; it'll depend on, do they have contracting with a pipeline in order to get that gas to the unit. If you're talking about a solar unit, it'll depend on do they have the panels; do they have the land secured--

SENATOR TESTA: Wait, what you said about solar though, it's only 8% reliability, correct?

MR. HAQUE: Comparatively, based on our ELCC metrics, that is correct.

SENATOR TESTA: Hardly a good investment in my opinion, but that's a whole 'nother ball game.

So, thank you.

Mr. Chairman, I have nothing more.

ASSEMBLYMAN DeANGELO: Assemblyman--

ASSEMBLYMAN KANITRA: Thank you, Chairman; I'll be pretty brief--

ASSEMBLYMAN BAILEY: Go ahead--

ASSEMBLYMAN KANITRA: Oh, I thought you were pointing at me; sorry, I was wrong.

SENATOR SARLO: Assemblyman Bailey, and then right to you.

ASSEMBLYMAN BAILEY: Thank you very much, Mr. Chairman.

I'll try to be brief, because I don't want to be redundant; many of these things have been spoken about-- What's that?

ASSEMBLYMAN DeANGELO: I'm sorry, Barranco is asking, I said Marenco is -- too close--

SENATOR SARLO: (indiscernible) he's an electrician--

ASSEMBLYMAN BAILEY: He's much taller and handsomer than I am. I appreciate that.

SENATOR SARLO: And, he's the best-dressed electrician in the state. We figured that out today, too.

ASSEMBLYMAN BAILEY: Again, I want to reiterate we certainly appreciate your hosting us--

MR. HAQUE: Thank you--

ASSEMBLYMAN BAILEY: --to come out to PJM. It was an impressive morning, and quite -- quite an education. Like being at NASA, in a lot of ways. But, I reiterate my colleague's comments about that.

Again, not to be too redundant, but to go-- I just want to caution us. When we look at rates that -- just under 30 megawatts per day, 2023-2024, jumping all the way to almost 270 megawatts per day coming up. And, now, we put together this idea around a cap -- a floor, and then a cap. The numbers get changed from 500 megawatts a day, because Governor Shapiro, next door, files a suit.

And, so, I just struggle with the ability to have confidence in us coming to these numbers, when they kind of just -- not randomly, but it seems random that they can go from 500 to 325, just like that. And, now, we're going to put together this idea around a price floor, which has faced serious criticism. Your own-- Your own market monitor said, "The inclusion of a minimum price greater than zero is a radical break from the definition of the capacity cost curve since its introduction, and does nothing to resolve this complaint."

So, I don't really have a question around there, it's just a concern that I want to voice to my colleagues here around this idea of going to the floor and the cap as an option here. I want to jump to the queue piece that we've talked about a bit, and I do have a question here coming up.

I was glad that you mentioned the developers and their concerns and some of their conversations around this. A study by Columbia

University found that the energy developers said the single biggest barrier to project development were the issues associated with a lengthy queue process. I don't know that we've actually gotten an overall -- I know we spoke to it that day, and I appreciated how you went into it, and a lot of the information around the queue that day. But, I don't know that we've actually gotten an answer to why is it taking so long.

And, then, today, we also hear about and we find out about this new idea -- which is awesome. And, I appreciate that we've come up with this resource reliability initiative.

MR. HAQUE: Yes.

ASSEMBLYMAN BAILEY: And, I'm excited that it's focusing on gas-fired powerplants. Why just gas-fired powerplants, though?

MR. HAQUE: Yes, let me just correct that record -- that part of the record -- as well.

So, it's not just gas-fired powerplants. So, we-- We are still pushing through the applications, but we have received applications for nuclear uprates; a new nuclear unit -- and, I can disclose this, because they've been public about disclosing it -- a new nuclear unit, which is basically the revamping of TMI -- Three Mile Island; and a lot of storage, as well. So, it's not just gas plants.

ASSEMBLYMAN BAILEY: All right, so, some of these other renewable options that have been sitting there in the queue for a while, they're also going to be a bit -- be a part of this fast-track option?

MR. HAQUE: The projects that are in the queue will get processed pursuant to the timeline that the FERC has said we should process

them. And, so, that is basically a bunch already through the queue -- 18 gigs this year; 50 gigs next year.

And, those projects that entered through that Reliability Resource Initiative, those will get processed in tandem with those 18 gigs this year, because we realize the supply-demand challenges. We're doing everything we possibly can that's within our power to try and alleviate this.

And, so, opening up that fast lane to get more shovel-ready reliability-based projects through so that they can construct to try and alleviate these cost challenges -- that is a sensible thing for us to try and do to help your consumers -- to help *all* consumers.

ASSEMBLYMAN BAILEY: So, there may be some solar in that mix, as well?

MR. HAQUE: There's a formula that will determine what resources ultimately will get approved. Part of that formula is these ELCC values that I referenced. It is unlikely that solar will, but we have lots of solar already through the queue, and solar that will be through the queue this year and next.

ASSEMBLYMAN BAILEY: Do you -- do you, regarding the ELCC, and how that's determined--

MR. HAQUE: Yes--

ASSEMBLYMAN BAILEY: --we talked about it earlier--

MR. HAQUE: Yes--

ASSEMBLYMAN BAILEY: --ninety-five percent for nuclear--

MR. HAQUE: Yes--

ASSEMBLYMAN BAILEY: --nine percent, depending on if it's tilt solar or regular solar--

MR. HAQUE: Yes--

ASSEMBLYMAN BAILEY: --nine percent versus 11 percent.

Can you speak to that? Like, how is that determined? How do we -- how do we determine--

MR. HAQUE: Oh boy--

ASSEMBLYMAN BAILEY: --and--

MR. HAQUE: We'll be here a long time on this one. (laughter)

ASSEMBLYMAN BAILEY: But, there is some controversy around it, though, isn't there?

MR. HAQUE: I think there is; I think there is. Let's just say there is still discussion about how that -- how that math is done. I think most sophisticated markets across the globe have moved to this effective load-carrying capability way to evaluate resources, and evaluate when they can perform -- how they perform during our riskiest hours of our riskiest days. And, I think many markets are moving towards this -- towards this metric.

ASSEMBLYMAN BAILEY: I-- Again, I'm sorry to be sarcastic, but I think that may be a T-shirt for the day, "We're not quite sure how this math works." But--

MR. HAQUE: I didn't say that. (laughter)

ASSEMBLYMAN BAILEY: Sometimes I wonder if--

MR. HAQUE: I did not say that--

ASSEMBLYMAN BAILEY: --this is as confusing as school funding--

ASSEMBLYMAN BARRANCO: No.

(laughter)

ASSEMBLYMAN BAILEY: And, just so -- for Senator Smith, I know -- (indiscernible) -- regarding the membership piece, I just want to kind of dot an i on that membership piece.

MR. HAQUE: Sure.

ASSEMBLYMAN BAILEY: Because there are two different-- So, while there are a thousand members, there's over -- around 500 voting members.

MR. HAQUE: That's correct.

ASSEMBLYMAN BAILEY: Five hundred voting members.

Those voting members, it looks -- in some of the research I did -- it looks like about 16 of them are kind of down on the consumer side of looking at their focus within these areas.

Also, just so we-- So we're clear about how votes are done, my understanding is that at the senior level and at the market and reliability committee level of this membership, they use sector-weighted. So, it's-- Like we said, you get an even vote; 20%, 20%, 20%--

MR. HAQUE: Yes--

ASSEMBLYMAN BAILEY: --one vote equals that.

MR. HAQUE: That's right.

ASSEMBLYMAN BAILEY: But, at the lower levels where information is actually brought forward, it's not sector weighted--

MR. HAQUE: That is correct--

ASSEMBLYMAN BAILEY: --in that area.

So, if-- And, if we kind of look at it, some consumer advocate groups have said that they really only make up about 3% of that vote, when we come down to it -- their information, not necessarily mine.

But, just so we're understanding how information is brought forward and decisions are made, I want to make sure that we're clear on that front.

So, thank you, thank you for confirming that for me.

Finally, as we look at the various sectors like PJM across this country -- and, we spoke to one of them earlier -- we talked about the fact that in the Mid-Atlantic to the South, there are 15 states in a region that goes from Canada to Louisiana. And, we'll see how that plays out as far as the Canadian piece of it, along those lines.

But, a report card is done by Advanced Energy United. And, I don't know if everybody has seen that report card, but I certainly -- just, again, as we look forward to this, in regards to PJM, if this were my child's report card that came home, I would have some serious concerns about what we're looking at here.

The lowest grade, out of all the other regions, a D-. The lowest grade out of all the other regions. On interconnection process results -- D. Interconnection study process designs -- F. Study assumptions; criteria; replicability -- F.

I would say that we've got some work to be done here, and some things we need to look at for our ratepayers to make sure that they're getting the right end of these deals and these decisions that are being made.

Thank you very much, Mr. Chairman.

SENATOR SARLO: Thank you; nice job, Assemblyman.

Assemblyman Kanitra, followed by Assemblyman Marenco, and I think that will wrap up--

ASSEMBLYMAN DeANGELO: Kennedy.

SENATOR SARLO: Oh, Assemblyman Kennedy.

ASSEMBLYMAN KANITRA: Thank you, Chairman.

SENATOR SARLO: And, then, that'll wrap up this segment.

ASSEMBLYMAN KANITRA: Thank you.

So, my colleague, Assemblyman Bailey, and I are both kind of looking at the same thing at the queue process. We're just looking at them in very different ways. And, I think when anybody is trying to take shots at PJM, they talk about the queue process.

So, I'd like to dig into that--

MR. HAQUE: Sure--

ASSEMBLYMAN KANITRA: --a little bit.

When you have a new energy source going into the queue process,you mention that there's a studying process; there's research that's done. It sounds like a very in-depth undertaking--

MR. HAQUE: Absolutely--

ASSEMBLYMAN KANITRA: --is that a fair question?

MR. HAQUE: Yes.

ASSEMBLYMAN KANITRA: OK.

Can you quantify it in any way, whether that's one new energy source, and how many man hours, and how much time it takes? How

-- and, first of all, how many -- how many energy sources are in the queue at any given time? How many new sources?

MR. HAQUE: Yes, it's evolved over years. Now, it's-- It's certainly in the hundreds.

ASSEMBLYMAN KANITRA: OK, so, there's hundreds of sources in there at any given time; OK.

All right, so, please, tell me-- Give me an idea if there's a rough average as to how long it takes to kind of get one through, and what goes into it.

MR. HAQUE: Yes, we have been-- So, again, these are tough questions to answer because our processes pretty consistently evolve as well.

And, part of this evolution -- and, I promise I won't get too deep into this -- but part of this evolution is that we have gone from this sort of first-in-first-out approach--

ASSEMBLYMAN KANITRA: Right--

MR. HAQUE: --to first-ready-first-out approach--

ASSEMBLYMAN KANITRA: OK--

MR. HAQUE: --OK.

And, by doing that, we have reduced a lot of the time that was otherwise necessary when it was first-in-first-out, because when those folks would drop out of the queue, we would have to re-study everything. And, where we want to ultimately get is a one- to two-year turnaround timeframe for all of these projects to find their way into the queue.

So, we're looking at anywhere from 12 to 24 months to get these -- through our new process, to get these new projects--

ASSEMBLYMAN KANITRA: And, a new project would be if there was a new natural gas plant that was going to get built.

MR. HAQUE: Yes--

ASSEMBLYMAN KANITRA: That means just from your--

MR. HAQUE: Just from our end--

ASSEMBLYMAN KANITRA: --regardless of anything else, from your end, to get it through the queue, one or two years.

MR. HAQUE: Exactly right.

ASSEMBLYMAN KANITRA: And, that would also mean an offshore wind project--

MR. HAQUE: Exactly right--

ASSEMBLYMAN KANITRA: --one to two years.

MR. HAQUE: Yes.

ASSEMBLYMAN KANITRA: That's really good to hear.

Now, right now, offshore wind constitutes what, about 15% of the queue?

MR. HAQUE: Of the generation interconnection queue?

ASSEMBLYMAN KANITRA: Right, right.

MR. HAQUE: For New Jersey?

ASSEMBLYMAN KANITRA: Yes. Sorry.

MR. HAQUE: Currently -- well, currently, in the queue -- currently in the queue, I believe there is still roughly 12,000 out of the 16,000 megawatts in the queue are still offshore wind. Because, I don't believe-- I don't believe that the queue positions have been relinquished. I would have to go back and just triple check, but even though those projects may be sort

of -- I don't know how to characterize it -- off the table, they still hold queue positions.

ASSEMBLYMAN KANITRA: Right, right. And, that, in and of itself, is an interesting component to me.

But, when you look at each project as a year or two years to get through that -- and, we've had wind projects that have already come through the queue; they aren't online, but they've come through the queue, correct?

MR. HAQUE: Correct.

ASSEMBLYMAN KANITRA: And, we've had-- And, we've had ones that have dropped out, right?

So, everybody here is talking about and laying blame at the lengthy queue process. But, we have taken years and years and years studying offshore wind, and approving offshore wind through the queue. And, how many wind turbines do you think -- you anticipate -- are going to be spinning in our ocean over the next four years?

MR. HAQUE: Does not appear to be any.

ASSEMBLYMAN KANITRA: Zero. So, we have wasted years and years and years of your organization's time, effort, resources that could have been spent bringing other projects online, that could have kept ratepayer costs down, because it would have created more generation more quickly. And, we've wasted it on wind; they're still in the process right now. No wind turbines are ever going to be off our coast. And, it's a total boondoggle -- and not your guys' fault at all.

Last question, just because I know Senator Smith had said this earlier. And, you mention that you had a good relationship with BPU,

so I don't want to-- I don't want to put that in danger or anything like that. But, I'm just going to ask you what's more likely: That there's a grand conspiracy going on where the market is really dictating our energy prices right now, or that there were just a lot of crappy policies that were made, that we're now paying the piper for?

MR. HAQUE: (laughter)

I select neither of those options, Assemblyman--

ASSEMBLYMAN KANITRA: I tried to put you on the spot--

MR. HAQUE: But, look-- But, look, here's what I would say. This is not particular to just the PJM region; this is a national issue.

There was just an article -- I believe in, that was in the *Journal* today -- that basically talked about this maintaining sort of internet connectivity; advancing it in ways--

SENATOR SARLO: I shared that article -- I shared that article with the members--

MR. HAQUE: Oh, did you? OK--

SENATOR SARLO: --at a pre-meeting this morning.

MR. HAQUE: Well, thank you for confirming what I just said.

SENATOR SARLO: I was so excited to see you, I read it this morning at 6 a.m.

MR. HAQUE: Thank you so much; thank you, thank you.

ASSEMBLYMAN KANITRA: And, I'm all good.

MR. HAQUE: It's a national issue; it's a global issue.

And, so, look, we have a market monitor who monitors any nefarious activity in the marketplace. He is very dogged; he disagrees with us on quite a bit, which is why we evolve our market rules. He's excellent; he does an excellent, excellent job.

So, this issue that we're facing right now, if the option is-- If the option is collusion or what is happening nationally and globally, that is recognized by actual authorities who are reputable, I will take the latter.

ASSEMBLYMAN KANITRA: You did answer it.

Thank you very much.

MR. HAQUE: Thank you.

ASSEMBLYMAN DeANGELO: Thank you.

Marenco.

ASSEMBLYMAN MARENCO: Good afternoon, Mr. Haque.

(laughter)

MR. HAQUE: Good afternoon, sir, how are you?

ASSEMBLYMAN MARENCO: I would have said morning but we're past that.

MR. HAQUE: (laughter)

ASSEMBLYMAN MARENCO: First of all, thank you.

You did give us a great tour, and we did learn a lot. Maybe to your chagrin, today--

MR. HAQUE: No, this is great--

ASSEMBLYMAN MARENCO: But--

MR. HAQUE: This is great.

ASSEMBLYMAN MARENCO: I am not, like the Chairman, an engineer. And, definitely not like the well-dressed other chairman, an electrician. So, I'll ask you very-- I'm just a simple Hudson County country boy. So, I'll ask you very basic questions when it comes to this.

You called PJM a non-profit. And, legally, of course, it is.

MR. HAQUE: It is not legally a non-profit--

ASSEMBLYMAN MARENCO: Oh, no?

MR. HAQUE: It functions as a not-for-profit.

ASSEMBLYMAN MARENCO: *De jure*, not *de facto*.

MR. HAQUE: Yes, that's exactly right. Or, *de facto*--

ASSEMBLYMAN MARENCO: (indiscernible), yes. My Latin always gets in the way.

MR. HAQUE: Yes.

ASSEMBLYMAN MARENCO: The interesting thing, it's a very well performing non-profit. And, yet, what is your number of profitability every time? Because your profits being on the backs of local residents, even through this auction or not, you guys are making enough where there could be less profit and not have to break the backs of our residents with these price increases.

MR. HAQUE: Yes, we--

ASSEMBLYMAN MARENCO: Basically, what I'm saying is, what is the minimum desire of profit for your non-profit?

MR. HAQUE: Yes, we don't make any money based on auction results. We make no money up or down.

So, we are effectively given a particular amount of money on an annual basis in order to plan, operate, and then run markets -- plan the system; operate the system; and run markets. So, who stands to gain from higher clearing prices like the auction that we had are our generators. They are the entities who stand to gain from higher prices that clear in the marketplace. Whether that is sort of "necessary" for them is kind of the conversation that we've been having.

ASSEMBLYMAN MARENCO: Aren't the generators the guys who are sitting on the board deciding these--

MR. HAQUE: There are no generators on the board. I want to make that very clear once again. I'm not sure where this is coming from, but there is no generators who sit on the PJM board.

ASSEMBLYMAN MARENCO: So, you have-- You said you had a market analyzer, right? You said there's a--

MR. HAQUE: A market monitor.

ASSEMBLYMAN MARENCO: A market monitor--

MR. HAQUE: Yes--

ASSEMBLYMAN MARENCO: --market analyzer; I couldn't get the terminology right.

MR. HAQUE: Sure.

ASSEMBLYMAN MARENCO: And, I know several legislators -- especially Senator Smith -- said, you guys didn't catch these prices? This crisis -- because it is a crisis coming up. And, then you said it's almost like you-- You talked in a way where this is almost like a temporary price increase, but we all know it's human nature that once the price of eggs goes up, it's never coming back down.

So, how are we going to ensure that these prices don't go up another 10, 15, 20% in the next two years, where in about five years we're looking at an almost double price on--

MR. HAQUE: Sure--

ASSEMBLYMAN MARENCO: --all our consumers?

MR. HAQUE: It's a very fair question. I think we're going to be -- I think -- so, let's begin with this. Your consumers' bill -- President Guhl-Sadovy said it -- your consumers' bill consists of a few -- a few primary charges. New Jersey is a bit different, but in any state, any jurisdiction, it's going to be the distribution; it's going to be transmission; it's going to be generation; and, it's going to be any special programs, OK.

This capacity auction clear is a component of a component of the generation component of a bill, all right. How BGS gets determined -- how the Basic Generation Service gets determined -- I've gotten some education over the past few weeks. I recommended that there be some analysis done on long-term hedging associated with their BGS auction. At the same time -- at the same time, there is -- the capacity market clear -- which is a component of a component of a total bill--

ASSEMBLYMAN MARENCO: Yes--

MR. HAQUE: --we didn't talk about this much, but it's something that should be sort of mentioned here. The capacity auction -- it is a residual market. There are states that are, for instance, vertically integrated, that are hedged, effectively, against the clearing price of that market because they're building generation and getting regulated rates of return for that generation.

This is a competitive market state; this has been a competitive market state for many, many years. You have competitive generators in the state, and you have competitive retailers in the state. But, there's still ways to hedge against that cost. Like our market monitor likes to say -- he said it at a meeting we were just in -- *everything* is hedge-able.

So, is there a way -- for instance -- is there a way to enter into more bilateral transactions between -- for instance -- whether it's BGS providers and generation owners, conceivably, longer term? Lock in a fixed rate? Conceivably. This is meant to be a residual market in case you need to acquire power from the market.

So, I think that these are all sort of potential things that could be explored--

ASSEMBLYMAN MARENCO: But, Mr. Haque--

MR. HAQUE: Yes--

ASSEMBLYMAN MARENCO: --there is -- there is no "in case" we need to acquire power from the market anymore. We are a state that is trying to grow. We've known the AI issues; we know that-- You said how hard it is. The earliest we could put anything online is five years.

MR. HAQUE: Yes.

ASSEMBLYMAN MARENCO: So, it's not an "in case" we need to -- we *will* need to, at all times, from here 'til -- and, that's known by the auctioneers.

And, so, your capacity auction prices are not-- I know you've been saying supply and demand all day--

MR. HAQUE: Yes--

ASSEMBLYMAN MARENCO: --but, they're not. They're driving up the price, knowing that this is a permanent--

MR. HAQUE: Yes, I'm not putting this together, unfortunately.

And, so, what I'll say is that we can quibble about how much these auctions -- we can quibble about the price, that the markets -- that the marketplace should clear in order to compensate an existing generation fleet and incentivize new generation. But, effectively, this is the thing. If you are relying on the marketplace to incentivize new generation, and because you're concerned about affordability, you say to us you're not going to charge, or your auction place is not going to charge anything above $20, then you're not going to get new generation.

And, so then, what happens is on the reliability backside -- this is why I said reliability, cost, policy -- they all exist in a delicate balance. Lean too hard on affordability, and then we start to impact reliability. They all have to co-exist together. And, so, if the states got together through the Federal government, and the Federal government is our regulator and said that PJM is not going to charge anything above $20 for this next capacity auction, you're not going to get new generation.

And, so, this is the conundrum that we find ourselves in -- that these things -- reliability, cost, and policy -- have existed in this delicate balance, *and* we are now in an environment of higher pricing, when we have historically been in an era of lower pricing, long on supply.

ASSEMBLYMAN MARENCO: Mr. Haque--

MR. HAQUE: Yes--

ASSEMBLYMAN MARENCO: Just because I only have a minute--

MR. HAQUE: Yes, please.

ASSEMBLYMAN MARENCO: The Feds haven't issued any approvals for small modular reactors. Because, you mentioned that as a resource, but that hasn't happened, and it doesn't look like it's happening.

MR. HAQUE: Yes, it looks like it's a few years away.

ASSEMBLYMAN MARENCO: So, it's not a solution.

MR. HAQUE: Not tomorrow.

ASSEMBLYMAN MARENCO: And, not Monday, either.

MR. HAQUE: OK, but not--

ASSEMBLYMAN MARENCO: Not just--

MR. HAQUE: --yes, but conceivably, five years from now, six years from now--

ASSEMBLYMAN MARENCO: And, then, I know you gave us a long list -- I've got 30 seconds, right Chairman?

SENATOR SARLO: Go ahead, go ahead. Thirty seconds.

ASSEMBLYMAN MARENCO: I know you gave us a long list of your auction transparency -- future auction transparency. You didn't give us a timeline.

MR. HAQUE: I don't know what this is referring to; I apologize.

ASSEMBLYMAN MARENCO: We're hoping the next auctions will be more transparent. Because, this one was clearly not. And, the next auction is coming in about, what, two, three years?

MR. HAQUE: No, so, first of all, our market rules--

ASSEMBLYMAN MARENCO: Yes--

MR. HAQUE: --are approved by the Federal Energy Regulatory Commission. We run the market pursuant to the rules they have approved.

We just ran an auction that produced this pricing; we have another auction coming up in the July timeframe. And, that will be for the delivery year '26-'27. The last one we ran was for '25-'26.

SENATOR SARLO: Thank you.

MR. HAQUE: Thank you.

ASSEMBLYMAN MARENCO: Thank you, Chairmen.

ASSEMBLYMAN DeANGELO: Kennedy.

ASSEMBLYMAN JAMES J. KENNEDY (Vice Chair): Yes, what authority do you have at PJM to keep generators online when they want to go down -- shut down? Since we've lost generation.

MR. HAQUE: Yes, the only two ways that we can-- Actually, we have no-- We have no ultimate authority; we have to request it.

There are only two ways we can keep a generator online. That's through what's called a "reliability must-run arrangement." So, a generator says to us, "PJM, we're going to retire." We say, "OK, that's fine, that's well within your right, always, to retire." But, we need to study the system to make sure that -- for instance, if there was a generator that retired near where you live that we can continue to maintain reliability for those homes, businesses, etc. And, so, we study it, and then after we get done studying it, we say, "Do we need more transmission buildout in order to make sure that this unit can leave the system?" And, if they need more transmission buildout, then we can request-- Again, it's not a firm -- it's not

firm, ultimate authority. We can request that the units stay online until we're able to build out that transmission. That's the reliability must-run framework.

The other way that we can keep generation online is -- it's actually a request that would be made to the Department of Energy. It's called a DOE -- it's a reference number to something statutory -- 202c. And, what you can do there is you can request to the DOE that a generator stay online for emergency purposes. But, they can only stay online -- I believe the amount of time is, for DOE202c is either 30 or 90 days; I forget. So, it's not a long-term solution for any unit.

Thank you.

ASSEMBLYMAN DeANGELO: Thank you.

MR. HAQUE: I'm done?

OK, thank you.

Thank you very much, I appreciate your time today.

SENATOR SARLO: Next -- we're going to continue. Members, again, if you need a break--

ASSEMBLYMAN DeANGELO: Abe Silverman.

SENATOR SARLO: Yes.

Next coming up -- and, thank you for everybody's cooperation -- is Abraham Silverman, who is a research scholar at Johns Hopkins University's Ralph O'Connor Sustainable Energy Institute, and is a Principle at SilverGreen Energy Consulting. And, he's worked with all the major agencies.

Mr. Silverman, the floor is yours, sir.

A B R A H A M S I L V E R M A N, J.D.: Wonderful.

Thank you, Senators and members of the Assembly. It's great to be back before you again.

My name is Abe Silverman. As the Chairman mentioned, I am a research scholar at Johns Hopkins University. But, I've been working in this energy industry for about 20 years, from a couple different perspectives. I had the great pleasure of working at the New Jersey Board of Public Utilities for a few years as the general counsel. Before that, I was at the Federal Energy Regulatory Commission, though at a much lower level. And, for about 12 years, I worked at NRG Energy, which is a major deployer of capital, including all different types of generating units -- with a large fleet in PJM, and that includes both fossil and renewable. So, I sort of bring this three-part perspective to my comments today.

So, I know the hour is late, so I will try to-- I will try to move through this relatively quickly. I put together some testimony with a lot of charts; you all can look through those, and hopefully you'll find them useful. But, I had a few points I wanted to make in response to some of the questions I've heard.

One is that PJM, right now, is a tale of two cities. In some ways, it is the best place on the planet to be deploying capital, if you're a generator today. It is also one of the worst places to be deploying capital if you're a generator today, because it is so darn hard to get through the interconnection queue. We don't have forward visibility into prices, and state siting and permitting rules really haven't been modernized. So, we kind of have this trifecta of things going on where, in some ways, we're seeing a lot of demand for new investment; in other ways, it's being-- It's being strangled.

So, one of the things that I think is really difficult to underestimate is the way in which the interconnection queue delays, and the lack of a three-year forward capacity market, are interacting with data center load growth. The whole point of the markets that we set up at PJM were to provide a forward look into the future so that we weren't caught by surprise when things like load started coming; where we had time to invest in new generation, and actually bring it to market. And, a lot of these programs, frankly, are not working so well.

But, I want to-- I want to take a step back, because in a lot of my research and a lot of my work, I look across the entirety of PJM, and the questions that we're talking about today could be happening in any state in PJM. The Chairman mentioned earlier, we are part of a 13-state grid -- plus the District of Columbia; I never want to leave them out -- and electrons don't particularly care about state boundaries. We could be building gas; or coal; or other resources in other parts of PJM, and using those electrons and capacity to satisfy our needs in New Jersey. But, I want to make it clear: That is not happening anywhere in PJM, even in relatively fossil fuel friendly states.

So, yes, obviously New Jersey policy is important -- I think we do a lot here -- but it is not the solution, and it's not necessarily the root of all evil. Because we are seeing this happen across the footprint.

So, another thing I just wanted to note is that the things that -- I've heard a couple times, people talk about, "What about the terawatt hours of energy? Why are we talking about megawatts, or gigawatts?" And, the answer is, from a technical perspective, the PJM market prices are set based on the marginal clearing unit. So, even bringing a small amount of

additional capacity into the market quickly can really push down and affect prices quite a bit. On the other hand, of course, even small amounts of load growth can really affect prices quite a bit, disproportionate to what you would expect.

And, that really brings us front and center to this data center issue. We are seeing data centers growing in other parts of PJM. We are paying, today, for the impact of those other state policies. That is what it means to be part of a multi-state system. I have some recommendations at the end talking about how we can think about data centers. But, you know, the Chairman (*sic*) Smith is absolutely right to say that we do not have great transparency into the load growth in PJM, and it really calls upon a multi-state -- a multi-state -- a group of states to come together and really think about how to enact sensible data center reforms -- including better tracking of load growth.

OK, so, I want to start out by acknowledging that there are a lot of benefits to New Jersey for being a part of PJM. And, you know, I don't want to lose sight of those. The PJM value proposition, historically, has been compelling. And, why is that? Because, when you work with your neighbors, you can withstand extreme weather events better. Because, if there's a Hurricane Sandy -- God forbid -- in New Jersey, we can bring in power from other places, and vice versa. So, there's a mutual aid component to being part of a large grid. It also makes integration of clean energy easier, for the same reason -- that when there's a -- when wind isn't blowing in one place, it may be blowing somewhere else. And, so, that is also a major benefit.

I will also say that the competition is great. We do -- I mean, not to ignore Senator Smith, and some of the other concerns I've heard

about collusion -- but we live in the largest competitive electricity market, basically, in the world. And, for many, many years, we have seen lower prices as a result of that.

So, I want to sort of take a step back a little bit. Assemblyman Bailey talked about his 89-year-old mother; I'm going to try to sort of explain how this works in terms that maybe -- maybe she'd be able to understand. But, when we talk about the wholesale component of New Jersey rates, we're really talking about three things: We're talking about the cost of transmission grid; we're talking about the cost of capacity; and we're talking about the cost of energy. And, I won't bore everyone, but I have a short description in my testimony of what those actually mean in case you're wondering, because energy and capacity are two very, very different things, and it's one of the things that I see tripping folks up all the time, because they are -- they are separate.

So, in New Jersey, most customers take basic generation service. So, probably -- almost certainly -- every one of you takes your service through the BGS process. And, BGS goes out and holds an auction every year and buys the most of -- buys the transmission service, buys the capacity, and buys the energy that we need to supply our customers. So, the BGS prices kind of move in lockstep with what's going on in PJM.

So, why have the rates gone up so much? And, I have a little chart on Page 3 if you want to take a look. But, when we think about this, it's energy, capacity, and transmission is the wholesale component of New Jersey rates. Energy has gone up about 8.5% over the past 12 months, so that contributes. But, that is also off of a decrease from the year before,

where we sort of saw the effects of the Ukraine crisis, and the higher prices of natural gas.

Capacity -- that's the big one. We saw prices increase from $55 a megawatt day -- I'm sorry, I know these are wonky units -- to $270 per megawatt day, which is about a five-fold increase in a single year. And, that's really kind of unprecedented. But, I will also point out that the prices before that in PJM were really low. And, one of the reasons we're seeing such a price shock right now is that the prices for the last two years were historic lows. And, so, it's kind of important; over time, these things average out. But, of course, over time, we're all dead, and your consumers and constituents don't really care about that; it's not very comforting.

So, I've talked a little bit about the load growth. Load growth-- We have not seen load growth in this country since the '50s and '60s, when everybody started getting air conditioning and appliances. We saw some in the '70s and '80s. But, really, the story for the last 20 years has been very low load growth -- like a percentage or two a year. And, so, what's happened in the last couple years -- and, I have a chart on Slide 4 -- is that we are starting to see almost exponential load growth coming to PJM. And, yes, it's about electrification of buildings, and electrification of transportation, but those are relatively small compared to the data center load growth that we're seeing.

The vast majority of the impacts are data center load growth. And, this is really important, because we are expecting to see 2,700 megawatts of new large load additions -- which is what PJM calls them -- in the next year. Twenty-seven hundred megawatts. So, that is a New Jersey nuclear fleet worth of capacity that has to show up somewhere in PJM in the

next 12 months. That compares to only 514 megawatts of excess capacity that PJM had in their last capacity auction. So, as you can see, these numbers don't add up. It's not to say there's a blackout if the numbers get to a certain level, but the probability of a reliability issue goes up the smaller and smaller that reserve margin gets, or if we even go into deficit.

So, this is a -- just a really important piece of what we're talking about. And, that load growth isn't slowing down -- PJM projects 16,000 megawatts of new load growth by 2030. That's five sets of New Jersey nuclear units before 2030. It ain't happening. I mean, that's a real challenge.

I have a chart if you want to take a look and really understand what's really going on here, on Page 5. But, one of the things that's important to recognize is that this load growth is coming on top of a number of rule changes that PJM has made to its capacity market in the last couple of years. Those rule changes also had a really significant upward effect on prices. I've said before -- PJM I think saw a reliability problem coming; they were very distressed that they saw extremely low prices for the last couple of years; and, they turned all the dials up to 11. And, what we see today is the result -- is, in part, the result of that.

Now, the other thing I wanted to -- sort of switching gears a little bit. The interconnection queue is such an issue. I have literally been working on interconnection issues for 20 years now, which is a little bit sad for me. But, it is really an expression of customer interest, and we have seen, over the last few years, an amazing amount of customer demand for clean energy, and a real fall-off of investor interest in natural gas. So, what happened here? And, I think it's important to remember that the interconnection -- when we talk about five years, or two years, to get through

the interconnection queue, that's just the time to get studied. We still, then, need build -- fix the transmission grid so that you can connect; we still need to buy -- to build the powerplant; and, we need to get State and local siting and permitting done by them. So, we talk about these long delays, and they're really just the tip of the iceberg.

So, and I want to give some credit: PJM has tried to fix its process. But, on the other hand, I want to sort of note they've been working on this for six or seven years now. And, we still are not back to where we need to be. So-- And, about 2015, the average time for getting a new generator studied was about two years, which is in keeping with the national average. But, since then, we really have seen very large delays.

For those of you interested, when I was at Columbia last year, I actually did a survey of generators coming through the interconnection queue and asked them, "How long would it take you to build if you got your interconnection documents -- the interconnection agreement -- today?" And, they said, "On average, two to three years." Because they needed to restart the siting permitting process; they need to order equipment. So, because the interconnection queue was so unpredictable, it was sort of spilling over and exacerbating a lot of these other issues.

I want to point out -- and, you'll see I have some data on this on Page 6 and 7 -- this is not an issue that is unique to clean energy resources. Natural gas resources have struggled just as hard to get through the interconnection queue.

I noted -- I just did some quick review of the PJM interconnection queue -- there is about, between 2010 and 2024 -- about 475 natural gas-fired generators tried to connect to the grid. So, they put in an

application; they paid their study fee deposits. One hundred eighty-eight of those were new natural gas resources, of over 100 megawatts, and 288 were uprates -- which means -- as Asim said earlier -- take an existing powerplant, tweak a few of the pieces, and hopefully you can actually make more electricity without having to build a new plant. Very promising prospect.

And, you can see here, the number of successful projects was really low, particularly for new builds. There were 188 applications over this time period; 33 were built. In New Jersey, there were 39; two were built. Uprates have been more successful, but, of course, they're smaller.

The other thing I wanted to point out is we spend a lot of time talking about how quickly we can deploy generation here in New Jersey. And, so, on Page 7, I just went back and looked back at when a project first proposed to come into the interconnection queue. These are -- excuse me -- these are only gas-fired projects. When did they propose to come into the interconnection queue, and are they online today? And, you can see there has been no new gas resource that was proposed post-2020 that is in service today. And, in fact, really, if you go back, it's 2016 was the last time we saw a large powerplant -- gas-fired powerplant -- come into the queue that ultimately ended up getting built. I think it was in -- if I recall -- Illinois. That was a 1,200-megawatt project, so a real -- a real powerplant. So, I just say this to say this that -- the interconnection queue delays are something that affects every type of technology.

Now, I want to come over to the capacity market, because of course that is, I think, really what's driving this hearing, and, frankly, other hearings like it throughout the PJM area. This is not a red state or blue state thing, we're all seeing this; all the different states are looking at these issues.

What happened is the PJM capacity price went up from a total of $2.2 billion to $14.7 billion in the course of a single year. That is an unprecedented increase in consumer costs, and it's a big driver of what we're seeing now. From New Jersey, we went from $55 to $270, as I said. But, so, let's talk a little bit about what was actually going on -- why are these prices going up so much?

One is that, the way it was designed, the PJM capacity market is supposed to operate three years into the future. So, we're going to buy capacity that has to show up in three years; we're going to buy it today, it'll show up in three years. Makes perfect sense -- three years is approximately the amount of time it actually takes to build a powerplant. And, it's supposed to be the amount of time it takes to get through the interconnection queue. So, we have this, sort of, this wonderful, beautiful machine that was all working together where we would send the price; investors could then decide whether they wanted to build that powerplant; and, then they had time to build it before the delivery year. Now, of course, they've already spent years developing it before -- at that point, but at least there was a path forward.

Unfortunately, the last time PJM held an auction that was actually three years forward was in 2018. And, I don't mean to suggest this is totally PJM's fault -- the Federal Energy Regulatory Commission made a hash of things -- but we still have had now seven years where, instead of looking into the future three years, we're really looking at 12 months forward. And, that is a-- That is a real problem for investors who want to invest. Plus, it just makes this all totally unworkable with the interconnection queue delays.

And, the other -- the other -- the second thing I just want to mention really quick is coming out of Winter Storm Elliot in 2020 -- oh, gosh, was that 2022 or 2023, I can't remember anymore; Christmas Eve, whenever it was. I got called, in fact, from Stu Widom on Christmas Eve. I was up in New York visiting family, and he's like, "Oh, heck, we have a real problem here." That was back when I was with the Board. So, as a result of that winter storm, and the near miss we had for reliability, PJM has gone back and revamped what it calls its "capacity accreditation." I actually have some sympathy for my friend, Asim, when he says that ELCC is probably about the most difficult calculation there is to understand. It really is a probabilistic weighting, looking at a whole bunch of things.

And, what we saw coming out of that effort, though, was that both natural gas and solar and wind -- wind -- all took a hit to their capacity accreditation value. So, natural gas was basically assumed to be available 95% of the time; under the new calculation, it's available 60-80% of the time. And, of course, when you think about it you would never build a system that has a single dependency; a system that is entirely, say, natural gas. That's bad if you have an outage on the natural gas pipeline system. Or, if the well -- if the well heads freeze off in Appalachia during a particularly cold event. Of course, the same is true of wind and solar. If the sun doesn't shine or the wind doesn't blow for an extended period of time, you also can have reliability issues. So, that's why we look at how these things compliment each other on a probabilistic basis. And, the right energy mix is really, truly an all-of-the-above kind of mix.

So, let me go ahead and come over to the -- to some solutions. One is, I think there's been a tendency from states in PJM --

particularly those that went through a restructuring -- to sort of assume, "Well, PJM is now responsible for resource adequacy, so we don't really need to worry about it so much." And, I think a lot of -- there was just less political engagement with the process. So, I think hearings like this are wonderful. We've seen Governor Murphy, Governor Shapiro, Governor Moore. All of -- many of the PJM governors -- Governor Pritzker -- have gotten very involved recently in the PJM process.

And, I also have worked within the PJM stakeholder process; I'm probably a little bit biased -- but, it is -- it can be gruesome and slow. And, one of the things we've seen is when Governor Shapiro in Pennsylvania filed that complaint, it really got PJM's attention and, honestly, they fixed the issue. I mean, they didn't totally fix it, but they put a cap in on the next capacity market auction. So, instead of looking at an additional -- up to an additional $20 billion in consumer costs -- we're now only looking at another few billion. So, one thing is just seeing and really driving that political engagement, and making state voices heard.

And, I want to be clear: There are a lot of dedicated people at PJM. Load growth, I don't think was on any of our bingo cards five years ago. I certainly didn't anticipate that a war in Europe was going to disrupt our natural gas sector. I certainly -- *certainly* -- didn't see a global pandemic that was going to make a hash of our supply chain. So, there's a lot of things here that are going on. But, that said, I think there are some common-sense things we can do.

I would love to see a former State representative on the PJM Board of Managers; probably two. Feels like something that is a very

low-hanging fruit. That's a very powerful group of individuals; they're all very smart and dedicated, but they also need to hear from states directly.

Secondly, we really do need to talk about how states can get involved, and states carry a pretty big stick. Ultimately, states can -- if they wish -- pull the plug on PJM membership. I think that's something you've got to do really carefully. But, we could certainly look at setting up a new ISO -- preferably with as many states -- as many of our fellow states as would join. It's a coalition of the willing, and you can come in and sort of talk about, "Is there a competitive organization that might do a better job addressing some of these concerns than the current PJM is.

Short of that, there are a number of things we can do. For example, think about investing in specific resources in New Jersey, or doing what they call -- and, I apologize for the wonkery -- but the FRR option, which is the Fixed Resource Requirement option, which allows the State to take back some component of resource adequacy. In fact, the New Jersey Board of Public Utilities explored this idea -- this concept -- pretty thoroughly back during the last Trump administration, when there was a lot of concern over how FERC and PJM were implementing rules that would have penalized our nuclear units for receiving ZECS. And, so, there is a fair amount of work on the shelf that can be dusted off to look at options. Again, I'm not necessarily saying we should do that, but we certainly should talk about it and think about it.

The second thing is we really do need to accelerate the deployment of new megawatts across New Jersey. This -- I can't -- I know it's really economic wonkery, but this idea that the marginal resource is what sets the price is so critical. And, we have what they call a downward-sloping

demand curve. All that is to say that even small amounts of new megawatts can really have that outsized impact on prices, and we should be scouring the couch cushions for anything that can get deployed in the next 18-24 months.

So, what is that? Because we hear a lot about different technologies -- I thought Asim gave a great answer, sort of detailing all the pieces. But, here's what I would say. There are generating units -- and, particularly, energy storage units -- which have made it through the PJM queue. They're on the other side of the gauntlet; the other side of the valley of death; whatever you want to call it. Those resources have the potential to get built as fast as we can pay for them and site and permit them. And, then, as fast as the companies can actually get out and deploy those resources. We have seen storage deployed -- even significant-sized storage projects -- deployed in less than two years in the United States in recent history, and we should certainly be looking at that.

That's not to say storage is the *only* technology. I think you can look over the -- over the -- over the full gamut of BPU programs; of New Jersey programs. Solar is cost-effective in driving down prices, because every megawatt that we bring to market is going to have this disproportionate outsized impact. And, you can look at this -- the 5,000 megawatts of solar New Jersey has today results in about somewhere roughly -- this is just lawyer math, so forgive me -- but about 1,000 megawatts of the actual capacity accreditation. So, that has put 1,000 megawatts of downward pressure every day-in, day-out, on PJM prices in the capacity market -- not to mention what it does for the energy market and obviously all the benefits that we have to jobs that our union brothers and sisters here in New Jersey. So, that's really important.

I would say, there's been a lot of talk about offshore wind, and I don't want to make this political, but here's a fact: If we had offshore wind spinning today, our prices would be lower here in New Jersey, even accounting for -- even accounting for the -- well, I can see--

ASSEMBLYMAN KANITRA: That's not true--

MR. SILVERMAN: All right, well, I will just submit that the downward pressure that offshore wind and other things -- other resources -- put on prices are really profound. And, we've spent-- And, I was part of the team, so I fully recognize -- I was biased -- I was at BPU when some of those contracts were entered into. But, the fact is we spent a lot of time really agonizing over $1-2 per month customer impacts -- and, now, we're seeing $20 and $30 customer impacts per month, because we as a country -- and, I don't mean to just make this about offshore wind or New Jersey -- have not been able to deploy new technology and new generation as fast as we need to.

So, the last thing I'll say -- I'm going to skip over multi-driver long-term transmission planning other than to say there's a whole separate side of this problem we haven't talked about today, which is, you know why the interconnection process is so hard? It's because our transmission system is underbuilt, and PJM should be looking forward -- should have been looking forward -- to do long-term transmission planning for a long time now. They are finally grudgingly coming and doing that. Of course, that's only going to help into the future, but it is a really important step that I hope you all have a future hearing, and we can talk about those issues in depth.

So, let me come over and just talk about the last thing on data centers. And, on Page 12 of my testimony -- I'm very close to the end -- I have a few recommendations for what the State can do on data center load growth. Now, part of this, it has to be a multi-state effort. Because the data center policies in Virginia and Ohio in particular -- because those are the two places where data center load growth is really hitting -- are affecting our prices today. They are. And, so, we need to think about this in a multi-state sector.

But, 1., let's clarify the process by which new load comes onto the system. There is not a transparent queue; you actually have to ask the utilities what's in the queue. And, they don't always want to tell you because of customer confidentiality issues. We also don't know how many of those data centers coming in are duplicates. Now, there are some states -- in particular, Ohio and Indiana in PJM, and Asim mentioned West Virginia; I'm not familiar with their program. But, where the public utility commissions have put substantive requirements on data center developers -- things like, "Show us your contract;" a test that you are not duplicating this project somewhere else; agree with appropriate financial security, by the way, that you will take at least 90% of the electricity you're asking for over 10 years, such that we know you're actually going to show up and contribute to the fixed cost of operating the grid. And, certainly, Senator Smith's proposal to have data centers come in and bring in or commit to new, additional generation, to match their load is really important.

The last thing I'll say -- this is just about industry reregulation. Competitive markets really, over the course of American history, have always returned better results than monopolies. We have a monopoly in the wires business, and we're not going to escape that. It doesn't

make sense to have multiple entities stringing the same set of wires. There is no natural monopoly on the generation side. And, we've seen -- even going back to New Jersey's experience with the (indiscernible) program in the early 2010s, where the State came in and said, "We want a contract with new natural gas-fired generation." Now, it wasn't utilities, but it was through utility contracts. That program was eventually overturned by the U.S. Supreme Court, but we know the pricing, and the pricing for the CVP project started at $286 a megawatt day back in 2014, and is -- would have increased to $430 per megawatt day by 2030. Both of those prices are higher than we are paying today. And, we are already paying a lot. There is no reason to think that somehow going through a utility instead of using the competitive market is going to result in lower prices, and they're still going to face the same types of interconnection delays and lack of forward transparency in prices that we're seeing here.

So, with that, I'd love to get your questions.

ASSEMBLYMAN DeANGELO: Thank you, Abe.

First on the list, Senator Greenstein, then Senator Testa; you wanted to follow her.

SENATOR GREENSTEIN: Thank you very much.

And, thank you for your testimony.

I just have a couple of questions.

Would you say that PJM has gotten the balance between consumer protection and speed of decision-making correct?

MR. SILVERMAN: (laughter)

That is such a great question. Empirically, no. No, no, no, no, no. They haven't.

And, this is where I think we really need to talk seriously about structural issues. PJM has a lot of authority; the Board of Managers has a lot of authority. In some cases, they have to wait; in other cases, they can act alone. And, this like one of those really confusing bits of PJM trivia. Certain parts of the tariff, PJM has what they call 205 filing rights -- section 205 of the Federal Power Act. They can file something with FERC on their own accord. Other places in their tariff, they don't. So, it's really complicated. And, in other places, the utilities actually have the rights.

But, when you sort of look-- The results haven't been great over the last couple of years, and I think you really need to lay at least some of the blame for that on the door of the Federal Energy Regulatory Commission, who also has not appropriately judged the need for consumer protection. But, also, you have to look at what PJM has done and say they really have not delivered exactly where we'd like them to be.

SENATOR GRENSTEIN: Thank you.

Do you agree that PJM should be planning its transmission grid to allow for the quick connection of new generation? And, if not, why not?

MR. SILVERMAN: Yes, yes, yes -- totally, 100%. They should be.

And, frankly, where we've seen generation be successful in getting connected to the grid, you often see behind that is a state-driven or regional ISO -- sorry, regional market-driven focus on pre-building the transmission grid. Texas-- If you want to move electricity around, ask a Texan. They spent $6 billion getting their grid ready -- really to take wind from the western part of the state and the panhandle of the state, where

nobody really lived and there was no transmission to load centers. They invested in that, and it paid off *extremely* handsomely for them. The mid-continent system, which is sort of -- someone referenced earlier -- Canada down to Louisiana. A decade ago, they started planning out their transmission grid. And, of course, these are mostly red states, frankly, who invested very heavily in building out the grid such that every state got something.

And, PJM is, frankly, really behind in that process. They finally started, because FERC directed them to last year. We should have a whole hearing to talk about exactly some of the flaws of their current proposal. But, there's no question, everywhere it's been tried, the transmission investment has paid off incredibly well.

SENATOR GREENSTEIN: The last question I have.

PJM is currently working to re-vamp its long-term transmission planning process. However, the latest proposal from PJM appears to treat State policies on generation mix very unfairly. Why should a state -- like New Jersey, let's say -- electing to invest in next-generation nuclear storage or offshore wind, have its policies treated unfairly? Or, should it?

MR. SILVERMAN: That was probably a better question for Asim.

But, this question of who pays for transmission to meet state policies is such a big one. You have a state like Pennsylvania or Ohio, that's not necessarily interested in buying our clean energy. And, we're not necessarily interested in paying for their data centers. But, what we have is

an order from FERC telling PJM, and all the other utilities in the country, to plan on a forward basis for meeting state policies.

And, unfortunately, the way PJM has proposed it thus far -- and, this is still very much subject to change; there is many, many stakeholder meetings on this -- but they are basically proposing to not plan, in the most favorable way, for anything that is what we call "unit contingent." So, a specific contract for an offshore wind farm would not be planned for under what they call their "base proposal --" or, excuse me -- their "core proposal." Advanced nuclear that is not contracting with a particular generating unit I think also would not be treated that way.

And, so, we have this kind of weird amalgam where it's better than our current status quo, but it falls way short of where we should be in looking forward, so that we're actually planning for a realistic mix on our grid. And, to me, a realistic mix is one that is consistent with state law. And, it's not just New Jersey State law, it's Pennsylvania and Ohio state law, too. And, that is part of what makes PJM difficult, but we should at least, in our long-term transmission plans, be shooting for something that actually is compliant.

SENATOR GREENSTEIN: Thank you very much.

MR. SILVERMAN: Thank you.

ASSEMBLYMAN DeANGELO: Thank you, Senator.

Senator Testa.

SENATOR TESTA: Thank you so much, Assemblyman.

You spoke earlier in your testimony about New Jersey pulling out -- potentially -- of the PJM, and forming its own ISO -- obviously

where we would want, in the State of New Jersey, to have other states join us in that ISO.

What are your thoughts on the State of New Jersey pulling out of RGGI?

MR. SILVERMAN: That's -- that's a very political question. You know, and--

SENATOR TESTA: Wait a minute, why is that political? I'm asking you to -- it's a total policy question. Why would we-- What are your thoughts about pulling out of RGGI? That's not a political question whatsoever.

MR. SILVERMAN: Well, I'm happy to answer.

In fact, actually, we had-- Our weekly journal club with my students and colleagues at Hopkins was going to be this morning, on a new paper on the benefits of RGGI to PJM states and, unfortunately, I'm here instead. But, so, I'll-- But, there is a lot of question about how RGGI works, and, it's complicated, because there are two competing -- two competing truths about RGGI.

One is that it reflects the actual cost of carbon emissions for generation in state. But, it is also true that it makes very efficient natural gas generators in New Jersey look more expensive than a dirtier facility in a non-RGGI state. And, so, there are tradeoffs when you start thinking about, what does that do to PJM system dispatch? What does it do to local emissions in New Jersey, and the health effects of that?

So, it's-- It's a complicated piece of it. And, then, you also get the RGGI funding, which is used for a lot of very important clean energy programs in the various states.

So, I don't know if that answers your question, but that's probably one that would benefit from, also, another hearing.

SENATOR TESTA: Well, I'm glad that you're open to another hearing, because I certainly have a lot of questions, and I know we're getting into the afternoon here.

But, you seem to place a lot of blame about what's happening here in the State of New Jersey on the PJM. Do you place any blame on the New Jersey BPU?

MR. SILVERMAN: Well, that's a difficult question, since I was at the BPU a couple years ago. But, let me talk about some things that I think the State could do.

One is really work on siting and permitting. If we accept that we need an all-of-the-above strategy, we need to make it easier to build stuff. And, this is not unique to New Jersey, this is really a national problem. And, even-- We've even seen large solar farms in places like Ohio facing a lot more permitting and siting scrutiny. So, this is just a regional-wide problem where we need to deploy a lot more generation than we are right now.

The second thing I think we should do is we should really be very deliberate about looking at what generation -- what incremental megawatts we can bring and deploy in the next 18 months. I mean, the PJM Board of Managers sent a letter to the -- a public letter -- talking about how 2026 was a critical year for system reliability. So, June 1, 2026 is when they were really starting to get concerned.

So, thinking about, how do we go out there, identify either uprates that exist -- there's a new program called "Supplemental

Interconnection Service," that allows you to co-locate two things using the same existing infrastructure; storage programs -- all of those have the potential to come in very quickly, as do things like demand-side management; demand response; and, things like that.

So, I would say that those are all places where BPU can be a positive change agent by accelerating the climate of those programs.

SENATOR TESTA: And, I appreciate the fact that you admitted your bias because you were at the BPU.

So, I'll ask the same question of you as I did of President Sadovy: What grade would you give yourself while you were at the NJ BPU?

MR. SILVERMAN: (laughter) Oh, boy, that's a hard one. Fortunately, my daughter is in second grade and they just get "satisfactories" on everything.

(laughter)

MR. SILVERMAN: So, I'll probably just go with that.

(laughter)

SENATOR TESTA: Touche; OK.

So, I have some notes about some prior statements of yours that you've made, either on podcasts or in papers. And, you stated on a podcast, "Energy Policy Now," how, "Developers want to develop clean, and buyers want to buy clean."

Do you think that retail customers of electric are concerned about their energy being clean, or about being able to simply pay their electric bills?

MR. SILVERMAN: I think the large buyers, so not-- I'm going to leave aside the mom-and-pop retail customers. But, the large buyers

have been *very* clear that they want clean; the big tech companies, the data center owners. Oh, gosh, I can't remember -- they just had some press release saying that they had deployed something like a trillion dollars in investing in clean.

So, the answer is yes, large buyers really, really want clean. And, I think you can look at the repowering of Three Mile Island by Microsoft -- that is not a cheap project. I'm not exactly sure whether this is -- as they keep the commercial terms confidential -- but I believe it's somewhere in the $100-plus-per-megawatt-hour, range. So, that's a real premium that they are willing to put on getting clean energy.

SENATOR TESTA: Well, they also need the energy.

And, I'm really glad that you made the distinction between the large-end users and the mom-and-pops. I can tell you -- I represent one of the poorest counties in the state. I'm here to tell you that this summer, if it's really hot and folks want to turn on their air conditioning, they want to make sure that their air conditioning is on and that it's not going to be ultra expensive with the rate hikes that we're going to see. So, I'm glad that you drew that distinction.

I'm going to draw you back to when you were at the BPU, as you referenced earlier. So, when you were at the BPU, did you push -- or drive -- both Governor Murphy and Trenton Democrats to codify the Energy Masterplan?

MR. SILVERMAN: I'm not sure that I can talk about specific pieces of legislation I worked on.

SENATOR TESTA: OK--

MR. SILVERMAN: There are many pieces of the Energy Masterplan that I would like to see codified, personally--

SENATOR TESTA: OK--

MR. SILVERMAN: You know, the Energy Masterplan--

SENATOR TESTA: And, I don't mean to interrupt you--

MR. SILVERMAN: No, it's OK--

SENATOR TESTA: --but I've been told that you were the architect--

ASSEMBLYMAN DeANGELO: Can we -- do you mind just -- we don't have to kind of say Senate or Assembly Democrats and turn this into a political football. We're just trying to gather information, Senator, respectfully.

We've been bantering for over four hours, and this seems to be the same mantra back and forth. I'll be glad to kind of debate anybody on single issues -- on what Democrats and Republicans have and have not done -- debating on the energy issues. But, let's just keep it questions with politics out.

Thank you.

SENATOR TESTA: OK.

I've been told that you were the architect of the Energy Masterplan. I won't put any political party next to that Energy Masterplan, but *were* you the architect of the Energy Masterplan -- or, at least one of them?

MR. SILVERMAN: I was certainly involved in the Energy Masterplan. So, a lot of the Energy Masterplan was actually written before I got to the BPU. But, I took my direction from the late great Joe Fiordaliso and the Governor, and, yes, I am very proud of that work.

SENATOR TESTA: OK.

Do you think the Energy Masterplan is working?

MR. SILVERMAN: I think-- So, this is where I'm going to get a little bit wonky and talk about pathway models versus implementation.

So, the Energy Masterplan was looking out 30 years into the future and making the best predication we had based on the information we had at the time. And, I think there were a lot of really good elements of the Masterplan; I was actually looking at it for -- it wasn't for this hearing, but recently. There's a lot of really good stuff in there, and a lot of programs that I think would be -- would still be really excellent for New Jersey.

Now, I also think that it is a snapshot in time. So, that is now a 5-year-old document, and you very much need to look at the new reality. Costs have changed; load growth has certainly changed. So, a lot of these things-- The trajectory of offshore wind has obviously changed. So, I think you need to take those documents for what they are as policy documents, issued at a particular point in time, and then think and be flexible as you move forward.

SENATOR TESTA: OK.

My last question -- and, this is -- it's hard for me to find out in my level of research -- when you were General Counsel at the BPU, were you a barred attorney in the State of New Jersey?

MR. SILVERMAN: No, I was not. You're not required to be in New Jersey.

SENATOR TESTA: OK, that's-- I wanted to know.

Thank you.

ASSEMBLYMAN DeANGELO: Thank you, Senator.

Next up, Assemblyman Barranco.

ASSEMBLYMAN BARRANCO: So, I look forward to the day, Mr. Chairman, where we can come here to these special meetings and ask -- read prepared questions. (laughter)

So, we just have to do -- come up with what you tell us, Mr. Silverman.

And, by the way, I was in the last special committee that you were at, where the question was brought up about the Energy Masterplan. And, listen, I know your qualifications; when it comes to this kind of stuff, you know what you're talking about.

MR. SILVERMAN: I appreciate that.

ASSEMBLYMAN BARRANCO: I'm an electrician, as you know, and I've done electrical infrastructure work, so I know a little bit, too myself -- not as much as you, but a little bit.

In your testimony, I believe it was in the fall -- or, no, maybe like a year ago--

MR. SILVERMAN: I just happened to notice it was almost exactly a year ago, and a couple of days.

ASSEMBLYMAN BARRANCO: So, you made the comment that--

MR. SILVERMAN: The annual pilgrimage.

ASSEMBLYMAN BARRANCO: You made the comment that the Energy Masterplan was going to require doubling throughput -- those were your words. Do you remember that?

MR. SILVERMAN: That sounds-- I actually don't, but that sounds reasonable.

ASSEMBLYMAN BARRANCO: But, as a man who understands transmission and distribution and generation of electrical energy--

MR. SILVERMAN: Yes, and I think it's important--

ASSEMBLYMAN BARRANCO: That is a huge undertaking, do you agree?

MR. SILVERMAN: It is a huge undertaking. And, I think you need to recognize that when you talk about how fast these things are happening, the Energy Masterplan was looking at -- I think it was -- gosh, it had a 2050 end date.

ASSEMBLYMAN BARRANCO: Yes.

MR. SILVERMAN: So, over the next 30 -- 25-30 years -- that is very much a possibility, and I've got to say--

ASSEMBLYMAN BARRANCO: It's very -- right--

MR. SILVERMAN: --that was before data center load growth.

ASSEMBLYMAN BARRANCO: Exactly.

MR. SILVERMAN: And, so, I think it's important that as we talk about these things, we sort of recognize what's going to happen in the next couple years, and then there's what goes off into the future, right?

ASSEMBLYMAN BARRANCO: Yes.

MR. SILVERMAN: And, we use the -- we do -- someone asked President Sadovy-Guhl earlier about least regrets planning.

ASSEMBLYMAN BARRANCO: Sure.

MR. SILVERMAN: When I think about least regrets planning, I say you do a bunch of different scenarios and you look at what upgrades you need; what improvements to the grid you need--

ASSEMBLYMAN BARRANCO: Sure--

MR. SILVERMAN: --and, then, you go ahead and see the ones that are in common across a whole bunch of scenarios.

ASSEMBLYMAN BARRANCO: Sure; sure.

MR. SILVERMAN: And, that is just kind of like, "Let's do it because it's common sense; we're going to need it whether we electrify or not."

ASSEMBLYMAN BARRANCO: Yes.

MR. SILVERMAN: And, so, I think that's sort of how you do good long-term planning.

ASSEMBLYMAN BARRANCO: And, I appreciate your statement about the 5-year age of the Energy Masterplan. Because things *have* changed. And, I think we do need to -- and, I think that's why we're here, Mr. Chairman. And, I don't think-- I can't think of anyone more qualified to be able to make that statement.

And, I'm not blowing smoke, listen--

MR. SILVERMAN: I appreciate that--

ASSEMBLYMAN BARRANCO: --I have said it in this room. Electrification is not a political dilemma -- it's an engineering dilemma. And, I think of all the people in this room, you understand that more than anyone.

And, I have the last question for you. Since 2021, would you say that New Jersey has had substantial load growth?

MR. SILVERMAN: You know, I would have to look. The--

ASSEMBLYMAN BARRANCO: Because, you mentioned -- this chair keeps going down -- because you mentioned load growth multiple times in your testimony--

MR. SILVERMAN: Yes--

ASSEMBLYMAN BARRANCO: --and, you're-- And, you mentioned that it has gone up. Do you agree with that statement?

MR. SILVERMAN: Yes, if you take a look at Page 4 of my testimony, I'm afraid this is PJM-wide, so I didn't break it out for New Jersey.

ASSEMBLYMAN BARRANCO: OK.

MR. SILVERMAN: But, you can see really, up until 2024, the load growth was effectively flat. So, it was in the 1-2% range; pretty -- pretty *de minimis*, honestly.

ASSEMBLYMAN BARRANCO: Right.

MR. SILVERMAN: And, that in -- really, 2024 coming into 2026 -- that's when we have started seeing thousands of megawatts---

ASSEMBLYMAN BARRANCO: Right--

MR. SILVERMAN: --of new load coming in, largely -- though not exclusively -- for these large load modifications, which represent the data centers.

ASSEMBLYMAN BARRANCO: And, as you know, the auctions do the best job they can of trying to capture what that load growth is going to be, so that generators can make their prices. Am I right?

MR. SILVERMAN: This is one place where the lack of a three-year forward auction has really cost consumers a lot. Because, we should have locked in 2025 generation in 2022, under the three-year forward market. And, then, you would have come in -- that probably would have been a relatively low price, and then we would have started to see the load growth come in. So, you would have come in and run a catch-up auction--

ASSEMBLYMAN BARRANCO: Sure--

MR. SILVERMAN: --one year out, that probably would have had relatively high prices, but on a very small volume.

ASSEMBLYMAN BARRANCO: Right.

MR. SILVERMAN: So, this is one of those places -- and, I know this is sort of complicated when you try to add all this stuff up together -- but this is a place where, again, the combined FERC and PJM inability to get the auctions running on time--

ASSEMBLYMAN BARRANCO: Right--

MR. SILVERMAN: --probably has cost consumers billions of dollars.

ASSEMBLYMAN BARRANCO: So, safe to say that load growth -- for those of you who maybe don't understand exactly how this works -- load growth equates to what is essentially demand.

MR. SILVERMAN: Yes.

ASSEMBLYMAN BARRANCO: Right?

MR. SILVERMAN: Yes.

ASSEMBLYMAN BARRANCO: So, would you be willing to say that the increase that we're seeing in our electrical rates is created by

a multitude of sources -- one of them being the fact that we have spiking demand with declining supply?

MR. SILVERMAN: I would say that there is really three factors there.

As you say, there is spiking demand. There is a slight decrease in supply. But, what there really is, is a lack of new supply coming in. I mean, this is what's so frustrating about the interconnection queue and why, if you had to put -- if you had to cite one reason at the end of the day for why we're in this problem today, it is the fact that new generation has, effectively, been starved off for five years.

ASSEMBLYMAN BARRANCO: I agree with you; I agree with you.

MR. SILVERMAN: So, it really is that sort of balance sheet accounting.

ASSEMBLYMAN BARRANCO: I agree with you.

MR. SILVERMAN: What do we need -- that's going up; what do we have -- that's approximately the same; and, then, what do we need new. And, it's the new part that really hasn't been able to come in.

ASSEMBLYMAN BARRANCO: Thank you, Mr. Silverman.

MR. SILVERMAN: Yes, sure.

ASSEMBLYMAN BARRANCO: Thank you, Mr. Chairman.

ASSEMBLYMAN DeANGELO: Thank you.

Next up, Assemblyman Bailey, followed by Kanitra; then, Senator Zwicker.

ASSEMBLYMAN BAILEY: Thank you, Mr. Chairman.

One -- one question. I'll make this brief. Although, one comment.

Thank you for bringing up Texas, where nearly 30% of their energy load is wind. And, also, to our friends to the west in Iowa, where over 60% of their energy load is now wind.

Just making a statement. I won't go there today.

Thanks for bringing up data centers. Like Senator Smith, I also have introduced legislation designed to protect ratepayers from passed-on cost, or subsidizing infrastructure built through special tariffs, regarding-- And, so, I really enjoyed recently reading your op-ed. I did my own homework--

MR. SILVERMAN: (laughter)

ASSEMBLYMAN BAILEY: --in putting these questions together today on this exact topic, and the concept of creating a protective moat -- I like the way you said that -- ring fence around the retail customers from risk.

And, so, you bring up four ways the Feds and states can get together to deal with this. I'm only going to ask you one of the four. The first one, you talked about the consensus around whether to do that -- whether to ring-fence and make them bear the cost on that front.

Secondly, you talk about-- Is it unduly discriminatory to pick on data centers, specifically, in that area?

And, the fourth piece that you speak to-- I'm going to ask you about Number 3. You talk about the duplicative data center piece --

along those lines. People can read that for themselves; I'm more than happy to give you a copy of the op-ed.

So, I want to ask you about the third piece that you ask -- that you speak to on there. And, that is, grid-connected data centers pay for transmission service based on their gross load. I want to-- I know Assemblyman Barranco will be very interested in this question. While co-located data centers pay for transmission based on their net load. And, so, if what we want to see is the need to pay transmission and distribution costs based on their gross load -- either way.

How do you speak to that?

MR. SILVERMAN: Yes, this issue of co-location is probably the hottest issue in energy today. I was down at the NARUC conference -- which is National Association of Regulatory Utility Commissions -- and, I think there were five different sessions that were all about data centers, and most of them were about co-location. So, this question of what happens if you have an existing powerplant and a data center wants to connect to the grid, they're faced with a year-long or two- or three-year-long process for connecting to the grid, because you've got to expand the transmission and everything else. One thing you can do is locate behind the meter of that existing generating facility.

And, that's great if you're the data center -- because you have bypassed what is sometimes a very lengthy process -- but it's not so great for society, because, all of a sudden, that generator is being committed to the data center, and that load -- that supply -- is no longer available to the market. But, it also has an impact -- so, that has an impact on the pricing in the capacity and energy markets. But, it also changes the way it's treated for

transmission purposes. And, this is a very complicated topic, so I'm just going to sort of give a very brief summary.

But, when you are located-- When a load is located behind a generator, the generator does not pay for transmission service under the existing framework within PJM; that's just the way it's been forever. So, they are effectively avoiding contributing to the fixed-cost of operating the grid, whereas if they were to locate and take a grid connection, they would actually be paying transmission service as a load. And, part of the point that we made in that op-ed -- as well as some comments I filed at FERC on this -- is that there is no -- there is absolutely zero -- literally zero -- engineering distinction between whether that data center is located behind a generator or behind a load meter.

And, so, we need to erase this arbitrary distinction in how much they pay in transmission rates, based on where they happen to be located. Because that just doesn't really make any sense from an engineering point of view. So, this is absolutely a hot topic; there will be a FERC technical -- Federal Energy Regulatory Commission -- technical conference talking about this. They have an open docket right now that I'm sure the BPU will be participating in. PJM just filed their response earlier this week. So, this is like, breaking-as-it-happens kind of stuff.

ASSEMBLYMAN BAILEY: Thank you very much.

Thank you, Mr. Chairman.

ASSEMBLYMAN DeANGELO: Thank you, Assemblyman.

Assemblyman Kanitra.

ASSEMBLYMAN KANITRA: Thank you, Chairman.

I appreciate you being here with us today. We're kind of at the academic researcher portion of the hearing, where you act like the oracle and tell us all the -- all the great stuff.

MR. SILVERMAN: You should ask my wife, she'll tell you I'm not. (laughter)

ASSEMBLYMAN KANITRA: But, my concern is somewhat similar to Senator Testa's, as it relates to objectivity -- and, bias in that.

Like, earlier in your testimony, you had said that we're paying for other states' policies, but you didn't mention our own when you said that. And, then, when Senator Testa asked you what mistakes were made at the BPU, and what mistakes you made at the BPU, you didn't answer that. So, we kind of have no clarity on that.

And, when you were giving your recommendations earlier, you said we need to accelerate deployment of new megawatts across New Jersey. Yet, in August of 2023, you spoke at the Future of Natural Gas Conference advocating for trimming back natural gas systems.

My first question is, do you still believe that comment?

MR. SILVERMAN: I will confess, I don't quite remember exactly what I said.

I do think that if you want to decarbonize the economy, you do need to look at both the natural gas used for -- in generation -- as well as natural gas used for building, heating, and cooling. So, I certainly agree with that--

ASSEMBLYMAN KANITRA: And, not to interrupt you, but my understanding was the purpose of this hearing was to address the

rising ratepayer costs that everybody is facing. I don't believe that this hearing had anything to do with carbonization or anything like that. Decarbonization? This hearing is about rising energy costs, right?

MR. SILVERMAN: Sure, sure.

ASSEMBLYMAN KANITRA: OK.

MR. SILVERMAN: I was just answering your question about--

ASSEMBLYMAN KANITRRA: Oh, OK.

I'm just talking about in the context of this hearing.

Should we still be trimming back natural gas? You stated that in 2023. If we're addressing energy costs -- rising energy costs -- for ratepayers, should we still be trimming back natural gas?

MR. SILVERMAN: The least-cost solution to energy is usually to have a no-holds-barred competitive process. And, then, we start making policy choices about jobs; about the carbon content; about the electricity. And, that is a decision I think pretty firmly rests with the politicians.

So, where I really sort of specialize is coming in and saying if you want to accomplish a specific set of goals, here is the -- and, use the competitive market to do it most cheaply -- here's the way to do it.

So, I think the question of whether natural gas is part of the long-term supply mix for the State of New Jersey is really a question for the Governor and for you fine folks. And, then, I will be happy to help do that. And, remember, I've--

ASSEMBLYMAN KANITRA: And, I'd argue that the ratepayer would be begging for it if they knew the cost-value proposition and

weren't busy trying to put food on the table, instead of understanding the nuances of our energy policy.

MR. SILVERMAN: I think the-- There is no question that clean energy investments that have already been made have reduced costs in New Jersey, and continue to reduce costs in New Jersey today over what--

ASSEMBLYMAN KANITRA: What reduced costs--

MR. SILVERMAN: --over what they would have been but for those investments.

ASSEMBLYMAN KANITRA: OK, let me ask you a follow-up question, then.

When you worked for NRG, my understanding was that you were against zero emission credits and, as a result, the sale of nuclear. Wouldn't that seem to be counter to what you just said?

MR. SILVERMAN: No, actually, because I think the competitive market-- So, you're going back into the "way-back machine" here.

But, I think what I -- what our position was -- that A., we didn't think that the State should be interfering in the free market -- which, you know, I think you've got to be really deliberate when you do that. And, secondly, that they should have tested the purchasing nuclear versus other options for procuring carbon-free electricity. And, so, this is one lesson that I think I always advocate, is that if you want to achieve a State policy goal, you should define the product you're trying to buy as broadly and specifically as you can, and then establish a competitive market structure where people can bring capital to the market to meet those needs.

And, so, yes, I -- at the time -- I thought that the nuclear program was ill-advised, and that they should have put it out for bid.

ASSEMBLYMAN KANITRA: OK; appreciate it.

When you opened up, you were talking about how you worked for NRG; you worked for BPU; you worked for Johns Hopkins -- all great stuff. I did a little research myself and I noticed on your LinkedIn you've got SilverGreen Energy Consulting listed there as well.

I was just wondering if there's anything we need to know about the work that's done there. Do you have any contracts with the BPU, or any other State agencies? Or, have you submitted for any contracts with that? I mean, I do consulting on a Federal level, so I understand how that is.

MR. SILVERMAN: Yes, so, I do not have any contracts with New Jersey BPU or any other state; however, I do contracting with-- I do work with coalitions of states.

ASSEMBLYMAN KANITRA: OK, like OPSI?

MR. SILVERMAN: What's that?

ASSEMBLYMAN KANITRA: Like OPSI?

MR. SILVERMAN: Well, I mean, OPSI is a unique animal. I certainly could work with them; I don't happen to at the moment. But, a lot of that is also done through my work at Johns Hopkins.

ASSEMBLYMAN KANITRA: OK, fair enough; I appreciate that.

And, just, last thing I'll say is I think anytime anybody tries to talk about -- and, again, you're the oracle; I'm certainly not. But, anytime anybody tries to talk about how offshore wind was going to bring the costs down, they never factor in the cost of all the subsidies. They never factor in

the cost of all the diesel-powered ships, and all the factories that need to go in to produce it, and everything that goes along with that.

But, I am happy to send you a bunch of articles that I have that talk about how the cost was going to go up with offshore wind, and we can have a debate offline. Is that fair?

MR. SILVERMAN: That sounds good; I look forward to it.

ASSEMBLYMAN KANITRA: Thank you for being here--

ASSEMBLYMAN DeANGELO: Thank you, Assemblyman.

Senator Zwicker.

SENATOR ZWICKER: Thank you.

I appreciate the last few comments about subsidies. Why don't we start there?

Do you have any idea in a year how much the Federal United States Government subsidies the fossil fuel industry?

MR. SILVERMAN: I am sure it is a very large number, but--

SENATOR ZWICKER: It is a very large number -- $3 billion -- in 2022 it was $3 billion in direct, and $750 billion in implicit ones -- similar to what you were talking about with offshore wind. Enormous. So, if we're going to talk about subsidies, let's talk about subsidies for everything.

You mentioned before -- and, it got some folks here a little riled up -- that if we had offshore wind today, that every megawatt would put a downward pressure on prices in PJM. Could you talk more about that, l.;

and, 2., was that specific to offshore wind, or would that just be true for every megawatt that comes online?

MR. SILVERMAN: It would be true for basically every megawatt.

Now, offshore wind does -- and, I think Asim mentioned this during his testimony -- offshore wind has a very favorable profile for production. It is considered -- of all the renewable energy technologies, it is the one that is most predictable and has sort of the best capacity factor and accreditations. So, I would sort of put it on a bit of a pedestal from an engineering perspective. But, yes, what you said is true for every single megawatt.

And, I think this is helpful to talk about. So-- And, this is one of these places where you can get incredibly wonky with the PJM rules. But, PJM has what they call a downward-sloping demand curve, which they establish administratively. And, the place the price is set based on the supply in the market measured against that demand curve.

So, we could have-- We could have a whole discussion on this; I'd be happy to do it over a beer sometime. But, the basic principle is that one additional megawatt of capacity moves up or down that supply curve. And, so, it has a magnified effect on the total clearing price. The same principle applies in the energy market as well; it's a little bit more complicated.

But, yes, in general, an additional megawatt *will* move those prices quite a bit.

SENATOR ZWICKER: So, we heard earlier when we were talking to PJM that they have thousands of projects that are waiting to be connected -- accounting for more than double their entire capacity.

Do you have any idea what the breakdown is -- we've been in a lot of debates now between renewable energy, fossil fuels -- any idea what the breakdown is between -- of those thousands of projects? Are they mostly fossil fuel, or are they mostly renewable?

MR. SILVERMAN: They're mostly renewable. And, this is really a testament to the consumer demand and the interest from investors in clean energy options. I mean, it's just empirically true. And, so, if you look at PJM, it's like, enough to replace every generator in PJM twice over is now trapped in the queue. And, it's a little bit of a complicated statement to make, because there's capacity factor issues, and I think Asim mentioned it, but a 100-megawatt new combustion turbine -- so, natural gas peaker -- would have about 60 megawatts of capacity it could sell into the market. Whereas offshore wind would have something closer to 40 for 100 megawatts, and a fixed-tilt track -- whatever kind of solar it is -- would have somewhere between the 10 and 15. And, part of what makes all this complicated is those numbers now change on an annual basis.

But, all that said, yes. (laughter)

SENATOR ZWICKER: OK, so-- Thank you for that.

If I said to you, "New Jersey needs to build -- as quickly as possible -- new generation." Meaning not in 10 years; not in 15 years; but in the next year or two. Because we've got a three-year capacity auction in place, and we need to do everything we can to drive prices down -- along with everything else that was talked about today.

What would be your suggestion for how we could build generation as absolutely quickly as possible?

MR. SILVERMAN: I would start with storage, because storage is probably the easiest and quickest to deploy.

SENATOR ZWICKER: And, what does storage mean to you?

MR. SILVERMAN: Batteries. So -- yes, sorry. We call it storage because we want to be competitively neutral--

SENATOR ZWICKER: There's pumped hydro -- I mean, there's other ways you can store it--

MR. SILVERMAN: Yes, existing lithium ion off the shelf; batteries, they often come in a trailer that you could hook up to the grid relatively quickly.

And, within the whole storage industry, I would look at the storage resources that have already made it through the interconnection queue. And, I think -- if I remember correctly -- there are somewhere around a thousand megawatts -- give or take -- of storage projects located in New Jersey that have all the interconnection approvals that they need. So, I would focus on those.

SENATOR ZWICKER: Any idea what capacity that is in total?

MR. SILVERMAN: I think about a thousand megawatts.

SENATOR ZWICKER: Thousand, OK--

MR. SILVERMAN: And, if you look at--

SENATOR ZWICKER: That's a powerplant, right?

MR. SILVERMAN: Yes, it is; it is. It's real.

And, one of the nice things about storage that makes it potentially attractive -- and, in fact, Manu Asthana, that PJM CEO, President and CEO, testified about this in Congress the other day; pointed out that the -- oh gosh -- the ELCC, capacity accreditation factor for storage, is pretty high. And, it depends on whether it's four-hour storage -- so, that's a battery capable of discharging 1 megawatt for four hours, or eight-hour storage, and the capacity accreditation factor goes up the longer it is -- but, so does the cost. So, yes, so that is a very effective way to quickly deploy things.

The second is, I would go through not just storage, but look at solar -- and fossil -- that has also made it through the interconnection queue and identify those projects and really look into why are those projects not deploying today? And, usually, it's because the business case isn't there. And, so, talk to the-- Talk to the developers about how quickly you can get those projects up and running.

And, then, the third thing I would do is look very carefully at what are the siting and permitting hurdles that they're facing, and do what you can to help them out.

SENATOR ZWICKER: Back to -- you said -- so, after storage, you said solar and fossil that is already there in the queue. Any sense of the magnitude of those for New Jersey?

MR. SILVERMAN: I'd have to get back to you on that, Senator. There-- There just isn't that much fossil in the PJM queue.

So, I think -- if I remember correctly -- somewhere around 90% of this enormous amount of generation that is in the PJM queue is either battery storage or renewable. And, that just has to do with where investors have been putting their development efforts over the last few years; they have

not been putting it into fossil. But, of course, that's also because the prices for fossil were relatively low until recently.

SENATOR ZWICKER: So, keep on going.

Some of my colleagues have questioned you on whether you're biased or not, but what I'm hearing you say is that the market is driving folks to renewable energy, right? Is that true? Or, is it our policies? Is it the Energy Masterplan?

MR. SILVERMAN: I mean, let's take it outside of New Jersey.

SENATOR ZWICKER: I'm sorry--

MR. SILVERMAN: Take it outside of New Jersey; let's ignore New Jersey for a second and just look within PJM or nationally.

The vast majority of new megawatts coming onto the grid everywhere for the last couple of years has been renewables -- and, that includes some *extremely* fossil fuel-friendly states, so--

SENATOR ZWICKER: Which -- like, which states?

MR. SILVERMAN: Oh, gosh, I mean, anywhere with wind. (laughter)

So, Texas, Idaho, Montana -- these are all places that have invested very heavily in wind. Solar is really taking off--

SENATOR ZWICKER: It is--

MR. SILVERMAN: --in Ohio and Virginia--

ASSEMBLYMAN DeANGELO: One more minute, guys -- one more minute on this.

SENATOR ZWICKER: One more minute? Yes, I have one more question.

I'm sorry; go ahead, finish.

MR. SILVERMAN: No, that's OK.

So, the-- The level of interest from investors has largely been on the clean side.

Now, I will say, the data center load growth issue may very well change this. And, PJM -- I don't -- we didn't really talk about it today, but one of the things that PJM has implemented really just in the last couple months is an emergency bypass to the queue, where they went through and identified high-capacity factor resources -- of any technology; though, really, that probably means mostly gas, maybe a little bit of storage -- and has moved them to the head of the queue. Even those projects receiving the sort of emergency treatment from PJM won't get their interconnection studies completed until -- and, Asim can check me on this -- but I believe it's late 2026. So, you kind of need to look at the universe of projects that have already gotten their interconnection approvals.

The other thing you can do -- and, I think this is also worth talking about -- is there are places where the State has jurisdiction over its local utilities on the distribution side. And, there may be things you can do on the distribution side, in terms of reducing demand; increasing demand response; or, even deploying technologies at the distribution system where you don't have to wait for the PJM queue. Those would also be areas that you might want to prioritize.

SENATOR ZWICKER: And, last question, and I'll be quick, and I'll ask you to be quick, because I want to be respectful of time.

This is, in the end, as we heard, about the cost to consumers. We have not really talked at all about energy efficiency measures.

Roughly 40% of our energy bill goes towards heating and air conditioning, and we are in an ever-increasing warming climate.

Very quickly, can you talk about what practical things New Jersey can do to help consumers save and have more efficiency, so that we're using less and our bills will be lower?

MR. SILVERMAN: Yes, as I tell my daughter, the cheapest megawatt or kilowatt of electricity is the one you don't use. So, anything we can do to come in and make houses more energy efficient is key. I live in a drafty house -- there's no question, when I think about saving money on my electric bill, the first thing I do is go to the windows and put up some tape.

So, of course, that obviously doesn't really answer your question about what the State can do. But, the energy efficiency programs have been very successful in New Jersey in reducing the amount of load that we have. So has the solar program; they kind of act the same way -- they're both reducing the amount of capacity and energy the utility needs to buy. Though those are very cost-effective programs -- and flow directly through rates -- so, it's obviously not a panacea, but it is certainly very effective in reducing the overall prices against where they would have been, but for those programs.

SENATOR ZWICKER: So, just to wrap it up, investing in energy efficiency measure is a good--

MR. SILVERMAN: Absolutely--

SENATOR ZWICKER: --return on investment.

MR. SILVERMAN: Absolutely--

SENATOR ZWICKER: Thanks--

MR. SILVERMAN: --and, I know the Board of Public Utilities has some research on this, showing just how cost effective it is, and I'm sure they'd be happy to provide that.

ASSEMBLYMAN DeANGELO: Thank you.

Assemblyman Sauickie.

ASSEMBLYMAN SAUICKIE: Thank you, Chair.

Thanks for being here.

I really have, like, three things, so I'll be -- I'll try to be quick.

First, regarding subsidies, I'm actually supportive of them as long as they subsidize reliable energy. We heard the differences in reliability earlier; we had a hearing most recently about some proposed legislation where we would subsidize $60 million a year for 15 years. I was-- I'm not against the idea of that alternative energy; I am against $60 million a year for the next 15 years, or $900 million, on something that has a very low return on investment.

So, you want to put $100 million towards a nuclear powerplant right now, I'm all in, because it's got a 95% reliability. And, I've had this list in front of me -- it's the list of all the power generation plants in the state; it's 15 pages long. Page 1 represents, like, 70%, as I'm sure you know -- I'm sure you've seen this, right? Page 1 out of 15 is, like, 70% of the generation. Not one of them says wind or solar next to them. So, I'm not against it. I think if we're going to subsidize anything though, it's got to be reliable; it's got to have a higher return on investment; and, it's got to lower ratepayers' rates. That-- That's where I'm at. I'm not a fan of subsidizing something that doesn't have a high return on investment.

Second, you mentioned about the fact that there's -- there's a high demand out there, but nobody's entering the market to provide supply. Is that-- Did I get that right?

MR. SILVERMAN: The-- I wouldn't quite put it that-- I would be a little more nuanced than that.

But, I think the supply is certainly constrained by the regulatory barriers from PJM, because there is a -- there are a ton -- there's a ton of interest from potential developers. I mean, you only need to look at the interconnection queue to see that we have had thousands and thousands of new powerplants that have applied to come in. And, so, the supply there is very constrained partially because of regulatory barriers to interconnection.

Of course, it's also constrained by things like supply chain and equipment procurement. But, those factors -- transformer procurement, for example -- is very constrained in a lot of places. But, those factors apply basically across the board to every generation technology.

ASSEMBLYMAN SAUICKIE: OK, so, I guess maybe I misunderstood you, but I'll ask again.

In the private sector, if there's a high demand for something, you have people falling -- or, businesses falling over themselves to enter those markets. Is that not the case here, or--

MR. SILVERMAN: Oh, I think it is. I mean--

ASSEMBLYMAN SAUICKIE: It is--

MR. SILVERMAN: --this is why -- this is why the PJM interconnection queue is -- you talk about 15 pages; it's probably -- I think it's, like, 500 pages long--

ASSEMBLYMAN SAUICKIE: Yes--

MR. SILVERMAN: --because you have so many investors who want to bring power plants of all stripes to the market--

ASSEMBLYMAN SAUICKIE: OK--

MR. SILVERMAN: --and, they can't, because they can't get PJM to do the studies in a timely basis.

So, the-- I mean, there's, like, 285 gigawatts of new generation sitting in the PJM queue right now. That's probably a little bit of an old number, but it's -- it's just an enormous amount. So, just by -- for reference -- 285 gigawatts on a hundred and -- roughly 160-gigawatt system. So, the interest from the investor community and from generation developers is clearly there--

ASSEMBLYMAN SAUICKIE: It's there.

MR. SILVERMAN: Yes.

ASSEMBLYMAN SAUICKIE: OK.

And, you mentioned regulatory. When you say PJM is the problem, is it regulation, or is it just they're inept at doing this stuff? Like-- What's your thoughts there?

MR. SILVERMAN: I would never call them inept. I think they have struggled to deal with regulatory issues at FERC, and that they probably have not been as quick as they should have been to recognize the magnitude of the problem. I mean-- But, as Asim said, this is *not* unique to PJM. In the 2014 era, back when I was at NRG, California went through, I think it was, an 18-month freeze on their interconnection queue. The mid-continent area did the same thing a couple years later. So, it would have been nice, had PJM sort of recognized what was happening on a timely basis and,

frankly, acted faster to fix it. But, I wouldn't-- I wouldn't ascribe any ill-motivation or anything else to that.

ASSEMBLYMAN SAUICKIE: OK, last thing I had.

You mentioned about a bottleneck of the interconnection queue. Did I get that right? Is that along the same lines, or is there another reason that there's such a bottleneck?

MR. SILVERMAN: Same thing; same thing. Yes.

ASSEMBLYMAN SAUICKIE: OK, great.

Thank you.

MR. SILVERMAN: No problem.

ASSEMBLYMAN SAUICKIE: Thank you, Chair.

ASSEMBLYMAN DeANGELO: Thank you, Abe.

MR. SILVERMAN: My pleasure.

Thank you, everyone.

ASSEMBLYMAN DeANGELO: Our last person to testify -- Brian Lipman, from the Ratepayer. He's the Director.

Brian, thank you for waiting, as we are in our fifth hour.

I appreciate you.

B R I A N O. L I P M A N, Esq,: I think we finished our fifth hour; into our sixth, aren't we?

Thank you, Chairman; thank you, Assemblymen; thank you, Senators.

I appreciate the ability to be here today to talk about this important issue of energy affordability.

My name is -- as the Chairman said -- is Brian Lipman. I am the Director of the Division of Rate Counsel. We are a State agency; we

are involved in any matter where a utility is attempting to change their rates, either in front of the Board of Public Utilities, in front of FERC, or any other regulatory body where that may happen.

We also try to get involved any time bills that might impact utility rates or utility service (indiscernible) with letters. I hope that all of you have received my letters. We try very hard -- Senator Smith is not here -- we're trying very hard *not* to be the party of "no," but to be suggesting things that might be helpful. But, we don't look just at cost; we're looking at value. We recognize that ratepayers' budgets are limited, and we want to spend wisely.

Now, I submitted 29 pages of testimony, and, as the Chairman said, we're going into the sixth hour. I am not-- I am going to try and go through very quickly. What I will say is I have the benefit of going last, so a lot of people have said some of the things I was going to say. I also have the benefit of responding to some of the things people have said, and they can't do anything about that, which is nice.

But, obviously, I would really like for you to read the testimony. I put a lot of charts and graphs in there to try and make it as useful as possible to you.

I want to start off -- because, frankly, no one else has really done this yet -- talking about, what is affordability? What does that mean? Because it means different things to different people. Could it mean a percent of income? Maybe. Is it a cap on how much utilities can charge? Maybe. There's a lot of different definitions out there. So, we need to talk about what *is* affordability.

And, then, we want to talk about why this is so important. We spent a lot of time today talking about PJM, and that is a big part of this, and I'm going to spend some time on it as well. But, why is this important? Because there are people in our state *right now* who can't cool -- put on their air conditioning on the hottest day, or their heat on the coldest day. And, so, we need to make sure that people can afford what they're doing in their homes.

A significant portion of our population is suffering. One-third of the households in this state are in functional poverty. Sixteen percent of the country lives in what's called "energy poverty," which means that over 6% of their total income is being spent on energy. I can't point out enough, high bills are not simply a nuisance; these could be life-threatening to a number of people -- a number of your constituents.

And, I want to point out also that businesses will be impacted by higher bills. When bills go up, businesses -- our employers -- are faced with a choice: How do I pace this new bill? Do I lay off people? Do I leave New Jersey to go somewhere where it's cheaper, and lay off my entire facilities? Higher bills have impacts on everybody, and it raises the rates of everything. So, not only are you going to pay more for your electric bill, but the bodega you go down to -- or wherever you go to buy your drinks; your soda; your milk -- their prices went up, so the price of milk goes up. Energy is an important part of everything we do. I love the statement, the one PJM said, where they said, "It's 5% of your economy, but it's the first 5% of the economy." Because nothing happens without energy.

So, I want to talk a little bit first about where we are right now, before we get into the whole PJM issue that we've been discussing.

Because, I think it's important to understand. I know a lot of you are getting-- I am certainly getting a lot of complaints *right now* about the high bills. The BGS -- we'll talk about that later -- but that hasn't even hit yet. But, New Jersey Natural customers -- ACE customers especially -- I'm getting a lot of letters from them. And, I want to point out there's been a lot of rate increases recently. And, people ask, "Well, why are there these rate increases? What's happening?"

So, what's happening is the utilities are investing; they're investing a lot into our systems. But, they don't do that out of the goodness of their heart. These are private companies with shareholders who they have to answer to. And, so, when they invest, they expect to get a return on that investment. When they come to the BPU, they come with $100 million of investment that they have made over the past period of time that they're looking to recover. But, they're not just looking to recover that capital investment; they also need to get a return on that. Here in New Jersey, that return has been 9.6 for a long time. And, it is something that I think we do need to look at. And, I know someone was taking a shot at FERC earlier about their responsibility -- 9.6 is considered too low by FERC, so I just want to point that out. We've been pushing for lower ROEs for a long time.

I want to point out that since 2002, electric bills are up 78%, and gas bills are up 53%. And, that's following a national trend. A lot of questions have been asked, "Is this a New Jersey problem, or is this a national problem?" It's a national problem across the board. What was interesting is, preparing for this, I started comparing electric rates in New Jersey to elsewhere in the country. And, what I found fascinating was the electric rates in New Jersey are some of the highest in the country. But, our

electric bills are not; we're actually below the average. And, I *think* -- although I'm asking people to do a little more research for me on this -- it's because we're not in the deep south where you're running your air conditioning 24/7. So, my guess is we're using less electricity. So, even though our rate is higher, we use less. And, that's important to understand. Your rate -- which has gone up -- and your usage; those are the two components.

So, as I said, there's still more coming. And, I'm going quickly because I know that we're late. So, if I go too quickly, please just tell me to slow down.

ASSEMBLYMAN DeANGELO: We have your written testimony, but thank you.

MR. LIPMAN: So, obviously, coming up, we've got the BGS; we've got EE roll-ins; and, we've got any other subsidies that are going to be paid.

Now, in my testimony, I've put in an entire section of who is to blame, because I know that at the end of the day that's really what people want to talk about, is who is to blame. And, I would like to spend more time at the end talking about, quite frankly, ideas of how to go forward.

But, I think we've talked about a number of these issues. Historic low energy prices-- That's actually a big part of the blame, because, energy has been so cheap, it's masked all the things that we've been able to do. We've been able to invest and do a lot, and rates aren't going up. There's this thing that people were calling "head room." While the rates were low, or going down, let's invest more into our system and the ratepayers won't even notice because the rates will stay flat, but we'll actually -- so, when energy was going *this* way, we were investing more, so the bill stayed *this* way.

Obviously, PJM is the easiest target in the room, and I'll probably kick them a little bit while they're down as well. But, there are others. Obviously there is legislative mandates that have come out of this Legislature that have caused us to pay -- ratepayers -- have put money on ratepayers. And, you need to understand when you put those mandates on people, it's not just a budget of what they spend, it's the administrative cost and the return. So, a $6 million budget may actually be a $10 million bill to ratepayers. So, you need to look at the return rather than the budget when you're calculating how much this is going to cost.

Another easy target that we've heard today is BPU. And, in a lot of times, the reality is BPU's hands are tied. Our two agencies -- we're not always in agreement. My job is to push BPU, and push them towards being more consumer friendly. Their job is to balance a lot of interest -- and, not just ratepayers' interest, but the utilities and their stakeholders. So, in that regard, my job is probably a little bit easier. But, there are things (indiscernible) can do. I would like to see a little more vigorous attention from the Board on rates, rather than on policy. I would like to see a renewed emphasis on regulating the utilities. Much of what goes in front of the Board is actually outside of their control, but they are a regulatory board, and I think they need to be reminded that they need to regulate our utilities. As always, my office will continue to push the Board on ways to contain cost.

Other things that are causing this are usage. We use a lot more power than we did two, three years ago. I'm looking around the room, and I can guarantee you, just looking, that every one of you has at least one cellphone in your pocket -- if not two. When you're using that cellphone, you think, "Oh, charging, that's the electricity." But, no. Every time you do

a search, it goes somewhere; electricity is used. Every time you send a text, it goes through a data center. And, God forbid you use AI -- it's exponentially more power that's going to be utilized. So, we're just using a lot more.

Also, the extreme weather is causing, quite frankly, rates to go up. It's hotter in the summer; it's colder in the winter. You're using more power just to maintain your home in the same way that it was before.

So, I'm going to skip discussing what *is* the capacity market, but I do want to talk a little bit about the capacity market, because I think it's important for you to understand that we've been talking about it as a market -- as a supply-and-demand market. It is not. It's an administrative construct that PJM has created based upon supply and demand and economic theory. But, at the end of the day, it's important to understand that this is an administrative construct -- one that, if it's operating properly -- will send price signals. Higher signals -- you should build more generation; lower prices -- then you should have less generation and start retiring older, less effective units.

The problem is that that theory is not reality. We haven't had-- The market is supposed to have a three-year forward-looking basis. We haven't had that in a while. The PJM auction that's about to go into effect in July -- July 1 -- June 1 -- was around 11 months ago. There's not enough time for a generator to get a signal from this market and build something and get it into rates in 11 months. It's just not going to happen. We're not getting price signals. Moreover, we've had low prices for a long time, and there still was generation being built. It's unclear that the price signal is really what's driving this.

And, I want to focus a lot on the last market, because there was some talk about the independent market monitor -- or, I call it the IMM -- from PJM. This is an individual who is not part of PJM, but outside of PJM, but reviews everything they're doing. And, Asim kind of hinted that I would get to this -- earlier this month, he issued what -- the State of the Market Report. It's a really interesting read if you have time, but it's also about a thousand pages. But, I want to quote a couple things that I found in there.

First, he found the results of the last capacity auction were *not* competitive. There were *not* sufficient bidders into that market to make it a competitive market; that there was market power concerns with that market. He found it was the market rules -- *not* supply and demand -- that drove prices higher. It was market design flaws that were amplified. And, this is important, I want to quote this. "Market design and market power issues resulted in actual capacity market payments that were approximately twice as high as needed." What he is saying is that the market rules -- not supply and demand -- are the reason that market cleared so high.

Now, PJM is doing a lot to try and fix those rules. There's a lot of reference to Governor Shapiro's complaint, because Governor Shapiro is a governor and gets a lot of recognition. There were about six to seven complaints -- I'm proud to say one of them was ours -- at FERC trying to change the market rules. And, I forgot to mention, also -- because I know that was one of the questions earlier -- we are -- our office is a member of PJM; a voting member of PJM. And, I'm happy to talk about voting issues if there are questions about that as well.

So, I also want to make sure everybody understands that the base residual auction that PJM runs, and the Basic Generation Service auction -- the BGS auction -- are two completely different auctions. Neither one is actually run by BPU; BPU approved the BGS results, but didn't actually run the auction. But, I want to make sure everybody understands one is a capacity auction -- and, I'm not going to go into what capacity is; I think you've been told that enough times -- and one is for the actual supply of electricity, what our ratepayers here in New Jersey are going to be paying for it. So, I think what we need to do is we need to make sure that we demand better from PJM on these markets, and we make sure they're looking at their markets.

Another component that was discussed briefly today is transmission. Transmission costs have gone up significantly. You'll see a nice little chart showing the -- sloping up. But, what's more shocking is, if you look at the chart dealing with supplemental projects in PJM. Now, I want to make sure everybody understands what a supplemental project is. This is a project that is proposed by a transmission owner -- a PSE&G; an Exelon; or a First Energy -- to build themselves. They find a problem in their system; they identify the problem; they propose the solution; and, then, they build it.

Now, what's wrong with this is a number of things. First of all, there is no oversight of that process. The most PJM will do is PJM will make sure that if they build it, it won't harm their system. PJM does not look at whether it's actually needed; PJM does not look at whether it's going to be cost effective. They don't look at any of that -- nor does PJM look to see if a bigger, more regional line would be better for it. You know, we could

spend $100,000 in the PS zone; $100,000 in ACE; and $100,000 in Pennsylvania. Or, maybe, we can $250,000 for one line that fixes all those problems. There's no incentive for the transmission owners to do that, so they're doing these supplemental projects. And, if you look at the supplemental project chart that I gave you, you'll see that New Jersey is paying more for supplemental projects than any other state in PJM, and more -- almost twice as much than most of the states.

So, here's the other issue -- FERC doesn't look at these either. And, right now, New Jersey can't either. So, right now, there is no oversight of these projects. These are anti-competitive as well, because what's happening is the transmission owner is able to identify and build it without bidding it out. Maybe their solution isn't the best solution; maybe their solution is the cheapest solution. There are private companies out there that are willing to do this work. And, innovation drives down costs; competition drives down costs. We like that, and that's not being-- That's not happening with supplemental projects.

So, here, I want to suggest two things that the Legislature can do: First, require all transmission projects to go through a review process. Give BPU the authority to review transmission projects to see if they're really needed; if the best solution has been identified; and if the project is the most cost effective. PJM cannot do this; FERC is not going to do it; other states are doing it right now. We need to do that here in New Jersey to protect our ratepayers.

The second thing that you can do is require all utilities to be a member of a regional transmission organization. At FERC, right now, every transmission organization is given a 50-basis point adder onto their

ROE. So, let's say their base ROE is 10%; they're actually collecting 10.5%, because they're a member of an RTO. The reason FERC does this is because they want to encourage RTOs; regionalization was supposed to be good. But, what's happening is they're saying, "Well, we're afraid if we don't give them that 50 basis points, they'll leave the RTO." If you pass a law that requires them to be in an RTO, they no longer can do that. And, I will tell you that Ohio -- my counterparts in Ohio -- have used that law in Ohio to knock out that 50 basis points. So, right there, is something that you can do that will save ratepayers a significant amount of money.

We've heard a lot of talk about the generation queue as well. I'm not going to get too much into that, but it is true -- PJM is doing better now, but the generation queue is a large part of the problem. There was only about a 6,000-megawatt difference between this last auction and the one before it, so it's demand that's really going up. We need to get more supply online, and PJM needs to make sure they do everything they can to get that out.

PJM is a significant part of a ratepayer's bill, and they need to do a better job. Their system is broken; their generation queue is broken; their auction is broken; and, it all needs to be fixed. But, they're a major partner, and we need to work with them to make sure they're doing better. Of course, the PJM issues are not the only ones, and I'm going to very quickly go through some other statistics that I have here.

One is, we heard a lot of talk earlier about the ZECs. I want to be clear that those costs were 2% of a residential bill in 2024. So, 2% of every electric ratepayer's bill went towards the nuclear power plants in South Jersey. We argue that that was -- that that number was wrong. The

BPU interpreted the statute, saying, "We don't have the authority to look at whether it's the right number or not, because the Legislature has set the number." We need to make sure that the BPU -- and, I'm going to hit on this a couple times -- has the ability to be flexible as time goes on.

Energy efficiency -- we've heard a lot about energy efficiency, and how important it is. And, it is important; it's a very big part of what we do. But, we're paying way too much for it. Right now, BPU just passed $6 billion -- that's with a b -- dollars worth of energy efficiency in the next three years. A large chunk of that $6 billion doesn't go towards building energy efficiency, it goes towards returns for the utilities. And, that's just not helpful to us. At this point, when we're trying to do as much as we can, we need to find cheaper and better ways to do it. We pay the utility a return on -- equity in their investment, plus we give them what's called lost revenues. We're one of the only states that does both.

I also just -- I want to point out that there are some water mandates -- I know this is energy -- focused on energy -- but I do want to point out ratepayers pay water bills, too, and that is something else that we really need to keep an eye on. And, there are some mandates that--

ASSEMBLYMAN DeANGELO: If we could, just, it's getting late--

MR. LIPMAN: I know--

ASSEMBLYMAN DeANGELO: I know you want to pontificate, but let's just focus on electric.

MR. LIPMAN: OK. I just wanted to get that one in there, sorry. Couldn't help myself.

ASSEMBLYMAN DeANGELO: I got this; it throws far.

(laughter)

MR. LIPMAN: (laughter)

So, I want to also talk about a little bit about what BPU can do. One of the things that BPU can do is lower the SBC rate. They collect a significant amount in SBCs, and we're not spending it all. Let's lower the rate, and that lowers the rate for all ratepayers. So, BPU can lower that rate now for next year so that next year the SBC is lower and ratepayers get a little bit of a discount.

We talked-- I heard a little bit of the Infrastructure Improvement Programs. Those can be costly. What they're doing is, it is true what -- God, it was six hours ago -- what President Sadovy said about those investments being somewhat -- some of them being necessary, ultimately. But, the way they're rolled in, they are more costly for ratepayers for two reasons: One, the utility will begin to earn its return more quickly, so you're paying more of a return on that investment. And, secondly, when they roll them in, we don't get to look and say, hey, what else are you earning over here that maybe could offset that? So, because it's single-issue rate-making, it makes it much more difficult to offset that.

At the end of the day, ratepayers do not care about the various components of their bill. They care about how much they pay in total. So, we need BPU to keep an eye on *that* number. We cannot afford to look at each program in isolation; we need to look at the overall number. So, I've given a number of suggestions on things that we can do as a state. And, obviously, the first thing I want to say is we're in a hole, and, as we all know, the first rule of holes is stop digging. So, we just need to stop making more of a problem, and be more deliberate about what we're doing.

First and foremost, we need to hold PJM's feet to the fire. I-- It's unusual that Senator Smith and I see eye-to-eye, I know, and he's not here to hear it, so I hope he's not going to fall -- I hope he's not going to fall over dead when he hears -- but he's right. We need to hold PJM to task. And, they need to be-- Their feet need to be held to the fire. Asim was very clear: They like to be in the background; they like to be just behind the scenes. We can't afford that anymore. They need to hear from us; they need to hear from Rate Counsel; they need to hear from the Legislature; the Governor; the BPU; the citizens of New Jersey. PJM needs to understand that this is an important issue, and that we're not going to just have one hearing and go away.

As I said before, we can require all transmission projects to be reviewed by BPU. We can require all transmission owners to be part of a regional transmission organization. We can discontinue infrastructure and investment programs. We can rein in return on equity associated with utility investment. I-- Again, I wish Senator Smith was here; this is a two-fer. I agree with him; we should require large loads coming into the state to bring their own generation. When they come into the state -- especially the co-location issues -- they're essentially taking generation away from our ratepayers, and we're forced to bring it somewhere else. Why should ratepayers be forced to pay for a private entity that's that big a load source? Let them bring their own load here.

There's another thing -- reducing the SACP for SRECs, which will limit the amount ratepayers are paying for solar subsidies. This will result in lower bills for ratepayers. We need to encourage the building of any and all new generation. And, when I say this, I don't mean this as a

subsidy, I mean making sure that we get rid of any barriers to them being able to do that. We heard earlier that there may be generation that's actually going to be leaving us because of our DEP rules. I am very supportive of clean air, clean energy, but we are in a changing environment, and we need to make sure that we're paying attention as the -- I wasn't (indiscernible), sorry -- but we're a changing regulatory environment, and we need to be careful about that.

We need to be more thoughtful about our subsidies. There may be subsidies that are needed, but we need to make sure we're making it the right amount, and we need to make sure we're making it the right amount *now*. One of the things I want to say is that a subsidy of $100 may be needed in 2025, but the market changes, and maybe they only need $50 in 2026. You need to give the Board and others the flexibility to change those subsidies and wean people off the subsidies as time goes on. But, we need to right-size them, and make sure that we're not just throwing money. For a long time in New Jersey, we've just thrown money at these private entities in the hopes that we will get what we need. And, we need to be more thoughtful as we move forward.

And, if we decide subsidies are needed, one of the things I would strongly recommend is that we require those taking ratepayer money to open up their books. Let the BPU and Rate Counsel and see their books. In fairness to the utilities, they don't get to spend a penny that I can't look at and see what they spent and where they spent it, and I can't ask questions about what they did with it. With ratepayer subsidies being given to private entities, I have no idea what happens. What is it being spent on? Is it being spent on what we think it's being spent on? We have some theories that

maybe it's not, so we really want the ability to be able to look at that. And, I don't think we should do it so that we take subsidies back; I'm not looking to do that. But, it will inform us going forward to make sure that we're right-sizing these subsidies and doing what we want to do, and spending our money wisely. Because that's ultimately, I think, the goal of everybody in this room.

So, affordability: It's not just a word. And, if we really want to address it, there's hard work in front of us. In the short-term, we need to take action to protect the most vulnerable -- those who cannot afford their bills and will go without heat, air conditioning, medical equipment, or something else. In the long-term, we need to plan better and do better. There are hard decisions to make, and the reality is we may not be able to do everything that we want to do. We have to budget and make choices -- some of which we may not like. But, in the long term, that is how we ultimately curb continuing increases to ratepayers.

Again, I'd really appreciate if you would take the time to read my testimony. And, I am sorry that I had to go so quickly, but I also recognize that I am between you and going home on a Friday afternoon.

ASSEMBLYMAN DeANGELO: Thank you, Brian.

We do have some questions.

First up, Senator Greenstein.

SENATOR GREENSTEIN: Thank you, Chair.

I just have one question.

And, good afternoon.

MR. LIPMAN: Good afternoon.

SENATOR GREENSTEIN: Good *late* afternoon to you. (laughter)

Rate Counsel has raised concerns about the State's electrification plans and the increased load forces it could cause. Meanwhile, Rate Counsel has historically challenged New Jersey's efforts to develop new, clean energy generation. Rate Counsel advocated to slow down offshore wind development; opposed legislation to require utilities to invest in infrastructure upgrades; and, opposed the annual subsidy to the state's nuclear plants.

Energy demand growth is inevitable. How is Rate Counsel planning to proceed in supporting new generation development in the state to increase supply and help keep energy affordable for New Jersey residents?

MR. LIPMAN: So, I think ultimately what I would say is that we like markets and we like competition. And, subsidies undercut both of those things. So, we are not-- I want to be very clear: We are not opposed to clean energy. We are not opposed to offshore wind; to nuclear; to any of it. What we are opposed to is ratepayers being forced to pay significant amounts to keep those generation facilities afloat when there may not be a need for that.

For example, we do not believe -- although water under the bridge, if you will -- we do not believe the ZEC amount was the appropriate amount. We do believe the solar subsidies are higher than they should probably be. And, so, for those reasons, we've been opposing that. We have signed on to a number of subsidy-ish type issues when we find out it's correct. For example, the competitive market that the BPU is running -- we are playing an integral part in that, because we agree a competitive market will drive down the amount, and will make sure that we're right-sizing the subsidy.

So, I think it's not so much an objection to the subsidies -- or, to the generation types -- but to the types of subsidies that we're being presented.

I hope that answered your question.

SENATOR GREENSTEIN: It actually did.

Thank you for the explanation.

MR. LIPMAN: You're welcome, Senator.

ASSEMBLYMAN DeANGELO: Senator Cruz-Perez.

SENATOR CRUZ-PEREZ: Actually, he answered-- My question was going to be, "What can BPU do to decrease the cost of electricity?" and, if-- But, you answered the question. You gave us a good example.

But, should we change the way we set and calculate rates? Is that something they can do? Change the way we calculate the rates?

MR. LIPMAN: So, you're asking if BPU should change how they calculate--

SENATOR CRUZ-PEREZ: Yes.

MR. LIPMAN: That's a tough-- I don't know how we would do that. The way-- I mean, there was a really-- There was a lot of good questions that I really wanted to answer, but I'm not going to do that now.

But, one of the questions was about how a rate case works. And, how a rate case works is actually the best way to set rates, quite frankly. Because what it does is it gives not just BPU, but it gives Rate Counsel -- it gives everybody else who wants to intervene in that case -- an ability to question *everything* about what the utility is doing; look at every penny they're spending; how they're spending it; what kind of return they're earning; and,

then, actually -- if we want to -- litigate it in front of an administrative -- an independent, intimate administrative law judge. Something that other states don't do.

So, our rate cases are a really good way of setting rates. What I don't like is when we set rates administratively where we just -- either the Legislature or the Board says, "This shall be the rate." When we do that, the one thing I can guarantee you is we will get it wrong. It's kind of like, if you want to guess the lottery number. The one thing I can guarantee you is you won't get the right number. You might be close, but you probably won't get the exact number. We're never going to get it right. Whereas, if we set it with a market-- If we let the people who are actually generating the electricity -- the people who are actually selling the electricity -- set the price of what they need to do that, that's where we're going to get the most competitive and best prices.

So, that part I don't like. But, the rate cases themselves where we're regulating the utilities -- that mechanism is probably one of the best in the -- I think -- in the country.

ASSEMBLYMAN DeANGELO: Thank you.

Assemblyman Sauickie.

ASSEMBLYMAN SAUICKIE: Thank you, Chair.

Mr. Lipman, really good to see you again.

MR. LIPMAN: Thank you.

ASSEMBLYMAN SAUICKIE: We had a hearing not long ago and your name came up, and I called you the smartest guy in the room. And, I was being respectful to the Chair and my colleagues when I said that, too.

Your last time you were before our committee -- the Assembly Committee -- I really -- I believe that. I think you made the most sense and had a lot of great things to say.

You brought up the law of holes -- the second law of holes, as I'm sure you know, is when you stop digging, you're still in a hole. And, then, third law is any hole that is not filled now will cause more damage in the future. So, I agree with you; we've got to stop digging. I interpret that-- And, if I'm putting words in your mouth, tell me. Last time we spoke, you said, "Hey, stop--" one of the things you said was, "Stop passing bad legislation and you won't increase ratepayers' rates." I'm paraphrasing, so if you want to slap my hand on that, let me know.

MR. LIPMAN: Well, I mean, I would certainly say never pass "bad legislation." But, I think our definition of "bad legislation" would probably differ.

ASSEMBLYMAN SAUICKIE: Yes.

MR. LIPMAN: I think we would all agree nobody wants bad legislation.

ASSEMBLYMAN SAUICKIE: Right.

MR. LIPMAN: But, I think what we're worried about is what I was referring to as mandates on ratepayers--

ASSEMBLYMAN SAUICKIE: Yes--

MR. LIPMAN: --where we're setting-- One of the most dangerous things we can do at the legislative level is set a rate, because it's very static, and then it becomes very hard to change it in the future. And, as you saw, things went south real fast in the energy market, and legislation is not able to react to that. Unfortunately, PJM wasn't able to react to it either.

But, the reality is that that is really my biggest concern, is that if we start setting numbers in legislation, or requiring certain things to happen, rather than requiring that we do a study, we make sure we're doing it right. I don't have a problem with the Legislature saying, "You will do X the best way you can." What I don't like is when they say, "You will do X, and this is how you're going to do it," because once they do that, it may be the best idea on the planet that day, but what about next year or the year after that? And, so, it's better to give the flexibility to the agencies that actually have to implement those rules.

ASSEMBLYMAN SAUICKIE: Well, we're in the hole, right? And, we want to stop digging and try to get ourselves out.

Any legislation that you know that's been passed that we should be thinking about repealing; reversing?

MR. LIPMAN: Well, I would say the ZECs, but that's kind of a moot point at this point.

ASSEMBLYMAN SAUICKIE: Nothing would help?

MR. LIPMAN: Well, because they're not being implemented at this time; they're rolling off.

I think-- What I try to do is give a list of the current bills that I thought were really good that were out there. I didn't name the bills because I like concepts more than bills--

ASSEMBLYMAN SAUICKIE: Yes--

MR. LIPMAN: --so I put a bunch of concepts in my testimony.

I'm trying to think -- other than the IIP, which is actually a Board regulation, so there doesn't need to be legislation; the Board could do that through regulatory process now.

ASSEMBLYMAN SAUICKIE: What about the bill that required a reduction of 2%--

ASSEMBLYMAN DeANGELO: And, Assemblyman, I'll kind of -- if I could just interject--

ASSEMBLYMAN SAUICKIE: Sure--

ASSEMBLYMAN DeANGELO: --for like 30 seconds.

Where he's going to answer, like, "Hey, Wayne DeAngelo has a bill that's going to put 500 megawatts of battery storage into the system ASAP and here's the--" He's going to be no on that; he's against it; we shouldn't be subsidizing something like that. But, you heard everybody here is saying what the first and fastest thing to get up on board -- he's going to be in opposition for that reason.

So, not to bander it back and forth--

ASSEMBLYMAN SAUICKIE: Yes, I was-- I wasn't going that route, but--

MR. LIPMAN: And, Chairman, with all due respect, I want to make clear that I was not a solid no on that. I wanted some amendments to that bill, and I thought that there was merit in some parts that could be--

ASSEMBLYMAN DeANGELO: Gotcha.

Duly noted.

ASSEMBLYMAN SAUICKIE: And, Chair, if you remember, I said I support it, too, just not the subsidies--

ASSEMBLYMAN DeANGELO: I got you. You did.

Go ahead.

ASSEMBLYMAN SAUICKIE: All right, last thing.

You mentioned-- You mentioned two definitive things that we should be thinking about. I just want to point out to my colleagues, I have bills on both of those. So, I hope you take a look at those and support them.

ASSEMBLYMAN DeANGELO: No pun intended.

ASSEMBLYMAN SAUICKIE: Thank you; thanks a lot.

ASSEMBLYMAN DeANGELO: Thank you.

Assemblyman Barranco, you had a question.

ASSEMBLYMAN BARRANCO: I don't have questions, Mr. Chair; I have something I want to share--

ASSEMBLYMAN DeANGELO: Sure--

ASSEMBLYMAN BARRANCO: --with everybody.

ASSEMBLYMAN DeANGELO: Are we done with--

ASSEMBLYMAN BARRANCO: If there's questions, let there be questions.

ASSEMBLYMAN DeANGELO: Any more questions?

ASSEMBLYMAN KANITRA: I have one.

ASSEMBLYMAN DeANGELO: Yes, Senator.

SENATOR TESTA: Thank you.

I have some questions and some comments.

But, I really appreciate your testimony, and your bravery to say what your thoughts are.

And, I apologize, I didn't put my microphone on.

So, the cost of renewable energy credits -- to me that's something that's extremely important. The State's purchase of out-of-state renewable energy credits costs the ratepayers millions of dollars each and every year. Does it make financial sense to continue to pay more for out-of-state power, instead of focusing on local generation?

MR. LIPMAN: Well, again, that depends on how much the local generation costs. I mean, my position will always be to get the least-cost generation possible. Out-of-state RECs will probably be cheaper than in-state RECs, and, so, for that part, if you're looking at RECs, it's probably cheaper to get wind out of Indiana -- whatever "I" state you want to take it from -- than it is to get something here in New Jersey, just because it's more difficult to build here in New Jersey.

That being said, if we can build something in New Jersey that would be cheaper than what we're paying in RECs, then I would be very supportive of that, because it would drive down prices.

SENATOR TESTA: But, herein lies the rub, as other states are racing to become data center-driven; leaders in data centers; AI; doesn't it behoove the State of New Jersey to have generation here within our borders? Because other states may say, "Hey, look, you know what? We used to have capacity for you, but we no longer have capacity for you," whether it's in the PJM or some other type of energy-sharing conglomerate.

MR. LIPMAN: So, right now, the way PJM works is that it really doesn't matter -- I can't tell you which power plant the electrons in those light bulbs are coming from. So, where-- The reason you would want it in New Jersey, actually, is not so much to drive down prices, but to make sure -- and, I apologize for getting technical -- making sure that we don't

separate in the PJM market. There are what's called transmission constraints. There's only so much power we can bring into New Jersey. At some point, we will run out of the ability to bring in that power. We want to make sure we have sufficient power in New Jersey that we don't reach that point, because then what happens is we can't purchase cheaper power outside of New Jersey; you can only purchase the more expensive power in New Jersey. So, that is the biggest reason why you would -- in my mind -- you would want to make sure power is in New Jersey as long as we stay in this PJM region.

I would also point out that a lot of the power we generate, we don't even get to use -- we ship it out to New York City or somewhere else. So, if we're going to start building in New Jersey, let's make sure we're building it *for* New Jersey, and not for someone else, too.

SENATOR TESTA: Amen to that.

And, what I really appreciate what you just testified to is the fact that we don't know where our energy necessarily comes from; how it was generated. So, this push to-- Under President Biden with the Green New Deal or the Energy Masterplan, if we're not generating the power in New Jersey, isn't it, potentially, we're buying energy that was generated by a coal plant in Pennsylvania, potentially?

MR. LIPMAN: It could be coming from anywhere, I mean, you're right. We have no idea. I mean, PJM can run their flow mechanisms and give us some decent idea of where the majority of the power is coming from, but at the end of the day, no, I have no idea where the electron in your microphone is coming from.

SENATOR TESTA: And, some of the testimony we heard earlier today was sort of leaning into this idea that this 800% increase at the

auction was a surprise. But, you've been sounding the alarm for quite some time, haven't you?

MR. LIPMAN: Well, we have been fighting with PJM about how they run their capacity market.

I will say the scope-- I mean, we knew it was going to go up. Everyone knew this capacity market would clear higher than the prior ones that were historic lows; that it came out eight to 10 times higher than the last one. That was quite shocking. So, that was a surprise.

Again, the data centers, that part of the load -- which is significant -- was more of a surprise. But, yes, we have been saying that load is clearly going to start increasing in New Jersey. I mean, it's just simple math. If you add electricity onto the system, load increases. I mean, that's just the reality of the situation. And, that's why the energy efficiency is somewhat helpful. But, at the end of the day, if you electrify everything, then you're going to have less gas and more electric. So, gas bills will go down and electric bills will go up.

SENATOR TESTA: So, as far back as 2018 -- and, you weren't there yet; you came on in 2021, is that correct?

MR. LIPMAN: I became Director in '21. I actually started with the Division in 2013, after being with the AG's office.

SENATOR TESTA: Wonderful, so-- But, as far back as '18, Rate Counsel had cautioned against making ratepayers shoulder the cost of cutting transportation emissions.

Do you believe these warnings were disregarded in a rush to, essentially, go green? And, what has been the consequence for ratepayers in terms of higher bills or reliability risks?

MR. LIPMAN: I don't know if I would say they were ignored. They were certainly not the priority; the costs were not the priority. Again, because we had the advantage of cheap and excess -- and a lot of load. So, when prices were low, we could make-- Decisions were easy to make. It was very easy to decide to do something when the price was low. I mean, it was no different than 30 years ago when you wanted to drive down the Turnpike and gas was a quarter a gallon; you didn't really think that much about it. Now, it's $3 a gallon, maybe you think about it a little more.

So, in that regard, I think-- I think that was really the issue, is there was a thought that the good times would go forever and we would have this cheap electricity. So, I don't-- It's hard to say it was disregarded. Certainly, it was; we've been saying this for a long time. The cost of carbon, how we calculate that, is a big issue. It's still a big issue; it's one that can be debated for hours -- not here -- but certainly it can be debated for a long time about how we calculate the cost of carbon, and what that value really is.

SENATOR TESTA: So, one of the issues that I spoke about earlier was the mission statement of the NJ BPU. And, it spoke specifically to -- and, it does speak to, it's right on their website -- it talks about providing reliable and affordable energy to the ratepayers of the State of New Jersey. And, obviously, you're the advocate for the ratepayers.

Do you think that they've accomplished their mission statement?

MR. LIPMAN: I think we have reliable service in New Jersey, I think we have very reliable -- well, we have reliable service; I don't

want to say *very* reliable service, because I know we have a variety of different service territories in the room.

So, we have reliable service. Is it the most -- best price we could get? I would have to argue, no. I mean, if you look at all my filings in front of the BPU, you can see that we've been pushing them to have lower prices than they currently have done. Most of those are compromises between what the utilities are looking for, and what Rate Counsel is looking for.

But, certainly, if I thought I would get a better result litigating those cases, I would have litigated those cases.

SENATOR TESTA: I mean, because it just strikes me that contained in the mission statement is the quote, "To develop and regulate a competitive, economically cost-effective energy policy that promotes responsible growth and clean, renewable energy sources while maintaining a high quality of life in New Jersey." I want to be clear: I don't think there's anybody on this panel, on either side of the aisle, that doesn't want clean energy. I think we *all* want that.

But, as far as the quality of life is concerned, I know in my legislative district I'm already hearing from a lot of my constituents that are very concerned about what's going to happen this summer. And, they're very concerned about their quality of life, because it's going to determine right here in New Jersey -- which is technically supposed to be one of the wealthiest states in the United States of America -- whether they're going to be able to take a vacation; whether they're going to be able to afford groceries; or, whether they're going to pay their electric bill because they had their air conditioning on in the middle of July.

I mean, to me, that means that the BPU has failed in its mission if people are starting to alter their lifestyles in the State of New Jersey because they have to pay for air conditioning.

I mean, what do you say about that?

MR. LIPMAN: I say it's a very big problem. I'm getting the same letters that you are getting at my office, and it is a serious concern. And, I am very concerned about what's going to happen this summer. I'm concerned that people are going to sacrifice their air conditioning so they can pay for their medicine, and that -- as I said in my testimony -- people could die from this, because heat kills. I mean, this is a problem.

SENATOR TESTA: I mean, look, I look at our flag, our New Jersey flag, and it says, "Liberty and prosperity." That doesn't sound like prosperity to me -- at all. It doesn't sound a bit like prosperity. And, I'm not targeting you, I just want to be clear.

But, when people are concerned about paying for medication, or they're altering what they're going to buy at the supermarket; whether they're going to go on vacation to our beautiful beaches throughout the Jersey Shore -- I know Assemblyman Kanitra represents a great district; I represent a great district that people visit in the summertime. That's just ridiculous to me that the alarm has been sounded by you and a plethora of other people -- in the Legislature; outside of the Legislature.

Do you think people were listening at all during the last five years? Or, do you think that they thought we would never see this day?

ASSEMBLYMAN DeANGELO: So, if I could just have you guys wrap up, as we're in excess of 10 minutes.

MR. LIPMAN: OK.

SENATOR TESTA: That was my last question.

Thank you, Assemblyman.

MR. LIPMAN: What I would say is that, for a long time, I felt like the guy banging on the window from the outside. In the last year or so, I feel like I've been invited into the room, because this has become a serious -- a much more serious topic.

I do think that nobody's thought that this day would come; that people thought that the low energy prices -- the market was long, historically, Abe said it goes back to the '50s; I don't have data that goes that far back. But, load growth has been flat for so long that I think we thought that was how this was going to be, and I think we were all, quite frankly, taken by surprise at the level of the data centers. We know there was going to be load growth, but we were expecting this, and we're getting this. And, that is-- That's the surprise.

ASSEMBLYMAN DeANGELO: I know that most of us don't have the crystal ball that the ratepayer has, so that's probably why things like that happen sometimes.

But, Senator Bucco.

SENATOR BUCCO: Just very quickly.

You're the first witness here to say that it's just simple math. And, I've been saying that all day -- it's just simple economics; it's just simple math.

And, your office, I think, stated that the transition to renewable energy would cost ratepayers about $1.2 billion every year. And, if the -- if the -- if it's the goal to lower energy rates, then doesn't it make sense to have a more balanced portfolio, where natural gas is a component of

that, and grows, than to continue to have to provide huge subsidies to bring in the renewable energy to make up the difference? And, that doesn't even mention whether or not it's available.

MR. LIPMAN: Well, actually, that was going to be my biggest concern, is the availability of natural gas right now. Everyone-- If we were having this hearing 10 years ago, natural gas would have been cheap, and a gas-fired plant would have been very cheap and quick to build. It takes more time; there's less gas available; and, quite frankly, gas prices have become more volatile and more expensive.

SENATOR BUCCO: But, isn't it true that there's less gas available because the Biden administration shut down the pipelines? We've discouraged investors in New Jersey to invest in natural gas generation here, because we're telling them in 10 years not only-- We're telling them in 10 years we're going to be completely electrified, and, by the way, you can't even get the permits, if you'd like, through the DEP.

So, if you're advocating for lower energy rates, doesn't natural gas have to be a part of that equation?

MR. LIPMAN: As I said, to the extent we can get the natural gas, yes. I mean, we were very concerned, quite frankly, about some of the pipelines coming into New Jersey because right now, as we are-- We have sufficient gas in New Jersey to heat our homes and to power our gas plants, and we were concerned with ratepayers paying for more gas to come into New Jersey when there was no load to meet it.

To the extent there is someone who is willing to build a gas-fired plant and bring that gas here and do it more cheaply, I'm happy to have them. But, again, I want to make sure ratepayers are not paying for

that; that they're doing -- that's a private investor who can do that, and if they can do it more cheaply, Godspeed to them.

SENATOR BUCCO: If the regulations were changed--

MR. LIPMAN: Well, I don't really--

SENATOR BUCCO: --and made it -- and, made it more -- made it easier for them to build those plants -- I mean, I think that's what we heard today, that the regulations don't even -- don't even support building those; that the administration has taken a position that it's going to be phased out.

So, I just think you've got to be consistent. If you want a lower rate, you've got to go with a lower-costing energy. And, it seems to me like the decisions that were made a few years ago are having a huge impact today on the rates. And, that's-- I'll go back to, if we don't have a balanced portfolio, that $1.2 billion every year is going to be placed on the backs of our ratepayers, and you're going to be back here saying, "We need lower rates."

MR. LIPMAN: And, I will also point out a balanced portfolio is helpful because of reliability issues, as you heard from other testimony. It is important that we get-- I will always say this: Whatever source we can get, however we can get it, as long as we're doing it in the manner that makes sense for ratepayers.

ASSEMBLYMAN DeANGELO: Thank you, Brian.

MR. LIPMAN: Yes.

ASSEMBLYMAN DeANGELO: One quick question--

MR. LIPMAN: (laughter)

ASSEMBLYMAN DeANGELO: --the last one.

Assemblyman.

ASSEMBLYMAN BAILEY: Last one.

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Thank you for being here today.

Rein in the return on equity associated with utility investment. Do you-- Do you have a number in mind? Of what that should be?

MR. LIPMAN: Well, the first thing I would say is this one, especially, I would not want the Legislature to set an actual number. Every one of these cases, we hire an expert. That expert looks at the market conditions at that time for that industry. Our numbers have consistently come out in the high 8s to low 9s. In the last market, it's been creeping up to the low 9s. But, certainly 9s -- we've been below 9-6 for a long time now, and have been pushing for that, but that is something that, quite frankly -- and, without getting into too much details of how settlements work -- it's not worth fighting for given that we can get other things out of the -- in the utility settlement.

So, in the give-and-take of all -- of the making of sausage -- that is one number that we've lived with. But, if we were to have our -- if we were to litigate a case, if we have to bring it forward, we would certainly be pushing for a number right now probably around 9-1 or 9-2 -- depending on the utility.

ASSEMBLYMAN BAILEY: All right, thank you.

Last question. Keep the SPC and just spend it more effectively, or cut it? You said-- You talked about it earlier, about cutting it.

MR. LIPMAN: Well, what I was saying is reduce it. I think we should use it as we -- as it's intended to be used. If you look at the (indiscernible) that the Board just sent in -- I don't know, last week, two weeks ago; time has become very irrelevant lately -- they're not spending a lot of the money that they're taking in from ratepayers. Rather than just hold that at the BPU for the -- for whatever reason, or letting it sit there to be taken, quite frankly, by the Legislature for the budget, let's cut rate -- let's stop taking that money in; we can give some rate relief to ratepayers by reducing the amount we collect in the SBC and still continue to do all the programs we're doing. I think we can do both.

ASSEMBLYMAN BAILEY: Thank you very much.

Thank you.

ASSEMBLYMAN DeANGELO: Thank you.

Anybody else have any final questions, comments? (no response)

Thank you much, Brian.

MR. LIPMAN: Thank you, Chairman.

Thank you, everybody. It was a pleasure being here.

ASSEMBLYMAN DeANGELO: Assemblyman Barranco.

ASSEMBLYMAN BARRANCO: Are we wrapping up?

ASSEMBLYMAN DeANGELO: We are wrapping up.

ASSEMBLYMAN BARRANCO: So, I want to share-- I want to share a little something and this speaks directly to affordability.

In 2015-2016, I was the Project Manager of the Marion Switch, the 345,000-volt Marion Switch project in Jersey City, which sits just outside Hudson Generating Station. It was a part of the Bergen-Linden-

Carter project that PSE&G built through Energy Strong and other investments that PSE&G made into their infrastructure. PSE&G has one of the best infrastructures in the country.

We integrated what they call "gas-insulated switch gear," which is probably the latest generation of switching -- high-voltage switching -- extremely reliable. PSE&G came into a contract with Siemens Energy, and Siemens Energy sent us a platoon of German integrators -- guys who had installed this stuff throughout the world. They knew how to do it. I'm an IBEW electrician; we were given the contract to build Marion Switch -- a massive project; takes the trunk coming out of Hudson Gen, and distributes it out into 230 to be distributed throughout the State of New Jersey -- Bergen-Linden-Carter.

I want to just shed some light on decisions that were made in the State of New Jersey that we need to keep in the back of our minds when we try to figure out how we get ourselves out of this. In April of 2021, PSE&G was convinced to purchase a 25% equity share with Ørsted to build a wind farm in Salem County. In August of that same year -- 2021 -- PSE&G fossil shuttered 6.8 megawatts of fossil generation: Hudson Gen; all the coal plants; a couple of gas plants. In January of 2023, PSE&G sold that equity share for reasons that no one -- no one of us really knows. But, we can formulate that they realized that their investment was not something that really should be done.

Then, of course, we had Ørsted leave with $300 million of our money. Then, of course, Shell is gone now with Atlantic Shores. There are two nations in the world that have surpassed 20% of their electrical energy consumption by wind. They are the United Kingdom and Germany. There

are anywhere from 25-28% of all of their electric consumption coming from wind farms. The German fellas that came in 2015 *still* live here; we *still* work with them. Also, the ABB guys, the Swiss guys.

The kilowatt hour rate in Berlin is 3 and a half times the kilowatt hour we pay here in New Jersey. Wind is very tricky, guys. We need fired, robust, fired generation, and we need it now. That's the purpose of this meeting.

That's all I'm going to say.

ASSEMBLYMAN DeANGELO: Anybody else wish to be heard before we have closing comments? (no response)

Thank you.

So, I just want to thank the Committee for arriving here at 10.

For those who testified, thank you for your time.

Thank you for those in the audience who spent the afternoon with us.

So, I think we learned a lot today. One of the complexities of what we learned is that we need diversity in our generation. It doesn't matter whether or not one of the four individuals -- whether they support it or they're against it, it didn't matter. We're trying to make soup here; we're trying to come up with the best environmentally friendly at the lowest possible cost. And, it's kind of a little bit like herding cats, but we learned some things.

We learned that-- I believe that, with PJM, we need to reach out to our Federal representatives to talk about FERC, so there's a little bit better transparency. Figuring out the auction; figuring out how many

generators *are* in our PJM market; how that market goes; what they put in; what their pricing is; what the application is for that market. I don't think we got that answer, and I don't believe we did. Or, we need to talk about how much power we need; where is the forethought in how we're going to figure -- progress; how much more power we need in our grid. Because why weren't we told a couple years ago that we're trending up and it's a concern? We're not spiking overnight.

The discussion with artificial AI data centers -- we see them coming. We're in a hot market. We are in between everything; everybody should want to have their business here. And, data centers coming here, we've got to be mindful that we don't want them having data centers getting their own power, because data centers are going to run 24/7; nuclear reactors run until they have to be refueled or maintenance -- and, then, they have to figure out what they're going to do with that data center. They're not going to shut it out during that process.

We had a good dialogue this afternoon. We have the next meeting in a couple weeks, where we'll have some of our utilities.

The only thing I will add to this -- and, I know it gets -- and, sometimes, we can't help ourselves going back and forth. But, let's just focus on the conversation of doing what's best for New Jersey. I know we all like soundbites -- no one better than me.

But, thank you for enduring the afternoon, staying with this, and learning the process.

And, have a good weekend, as I'll be in Disney World.

(MEETING CONCLUDED)