STATE OF NEW JERSEY

BOARD OF PUBLIC UTILITIES

PUBLIC HEARING

----------x

IN RE:

NEW JERSEY'S ENERGY MASTER PLAN,

UPDATE TO THE 2011 ENERGY MASTER

PLAN.

----------x

LOCATION: Seton Hall Law School
1109 Raymond Boulevard
Newark, New Jersey 07102

DATE: Tuesday, August 11, 2015

TIME: 1:00 p.m.

BEFORE: Richard Mroz,
President, Board of Public Utilities.

J.H. BUEHRER & ASSOCIATES
1613 Beaver Dam Road
Point Pleasant Boro, New Jersey 08742

T R A N S C R I P T of the above-entitled matter by and before GERALDINE ADINOLFI, a Certified Court Reporter, License Number 30XI00228000 and Notary Public of the State of New Jersey, Notary Number 2273630.

PRESIDENT MROZ: Good afternoon. Good afternoon and welcome. My name is Richard Mroz. I'm the President of the New Jersey Board of Public Utilities and I'll be serving as the hearing officer for today's hearing.

Pursuant to the open Public Meetings Act, the New Jersey Board of Public Utilities has provided notice of three scheduled public hearings to solicit comments for an update to it's 2011 Energy Master Plan. Adequate public notice has been given pursuant to the open public meetings act, notice having been posted at the Board's offices and having been delivered to the Department of State and newspapers of broad circulation within the state. Notice also was posted on the Board's website and the State Energy Master Plan website.

I now ask us all to now stand for the Pledge of Allegiance.

Thank you. So we are here today to take comments on updating New Jersey's Energy Master Plan, which was released by Governor Chris Christie on December 6, 2011. This is the first of three public hearings we will host on this matter. I am joined today by my fellow commissioner, Diane

Soloman, as the proceedings continue I may be joined

by several of our colleagues on the Board. We are also joined by a number of staff people who are here to listen and consider the comments. Also, I am joined by Ms. Babette Tenzer, Deputy Attorney General who is sitting with me here at the table.

Information on where to send written comments is posted on our web site www.NJ.gov/EMP and public comments can be presented by regular mail to the Board of Public Utilities.

All comments on the New Jersey Energy Master Plan update must be submitted by close of business on Wednesday August 24, 2015.

The 2011 Energy Master Plan is a strategic vision for the use, management and development of energy in New Jersey over the following decade. The specific recommendations in the 2011 plan focus on both initiatives and mechanisms which set forth energy policy to drive the state's economy forward, while maintaining New Jersey's strong commitment to preserving and protecting the state's environment. We request that comments be focused on the specific goals and recommendations of the 2011 Master Plan, and/or regarding several areas that have emerged since

2011.

In the 2011 Energy Master Plan, there contained five overarching goals. First, to drive down the cost of energy for all consumers. Second, to promote a diverse portfolio of new, clean, in-state generation. Third, to reward energy efficiency and energy conservation. Particularly to reduce peak demand. Next to capitalize on emerging technology for transportation and power production. And last, to maintain support for the renewable energy portfolio standard of 22.5 percent of energy from renewable sources by 2021.

In addition to the overarching goals, the 2011 Energy Master Plan contains 31 specific policy recommendations that falls into four general categories. First, to expand in state electricity resources. Second, to provide cost-effective renewable resources. Third, to promote cost-effective conservation and energy efficiency measures. And last, to support the development of innovative energy technologies.

New Jersey has made good progress toward achieving the five overarching goals and many of the 31 specific policy recommendations. Overall New Jersey has lower energy costs, while at the same

time advancing energy efficiency, demand response

and renewable energy. The state has fallen from a very high energy cost state. In fact, according to the US Energy Information Administration and it's ranking of state residential retail natural gas prices, New Jersey's ranking plummeted from the 17th highest cost state in 2010 to number 50, the lowest of the states.

New Jersey's decline in that EIA state's ranking for the cost of electricity, while not as dramatic as with natural gas, has followed a downward trend. In 2010 New Jersey was ranked as the 4th highest average retail price for electricity for residential customers. The state now ranks Number 10 in the EIA's most recent report. While New Jersey's average residential retail electricity prices ranking fell a number of spots, more needs to be done to bring down the price further for customers in all sectors.

The natural gas infrastructure in New Jersey has allowed New Jersey to take advantage of low gas prices providing residents and businesses with benefits from lower energy costs. In addition to lower energy costs, the state's electric energy resources are diverse and cleaner. New Jersey was

recently ranked 46th in emissions from electric

generation, despite being the 22nd largest electric generating state. This is a direct result of the state's resource mix of nuclear, natural gas and renewable sources.

New Jersey continues to meet its renewable energy portfolio standards, which this year requires nearly 15 percent of all electricity consumed in the state to be recognized as coming from renewable sources through Class 1, Class 2 and SREC mechanisms. And the state's total installed solar capacity recently surpassed the 1.5 gigawatt milestone, which accounts for about 3 percent of the state's generation mix. According to the Solar Energy Industry Association state ranking, New Jersey continues to be ranked Number 3, as having the highest, third highest amount of installed solar capacity behind only California and Arizona.

New Jersey has also had success in reducing energy usage through its support of demand reduction and energy efficiency technology. New and chip-changing challenges needs to continue growth in the implementation of the energy efficiencies technologies in the market that is still growing but reaching maturity. And the Board has recently been

taking steps to rationalize its energy efficiency

programs that it administers along with those administered by the electric distribution companies.

While overall there has been much progress on the implementation of the goals of the 2011 Master Plan, there is always room for improvement. For instance, New Jersey is on target to meet goals for new distributed generation. However, for example, the amount of new combined heat and power projects, which have been developed are not quite at target.

Now, since 2011 there have been a number of issues that have emerged which are critical to the State's Energy Master Plan process. Since the release of the 2011 plan, New Jersey has suffered devastating damage from impacts of natural weather events; such as Superstorm Sandy. The Christie administration has made it a priority to improve energy resiliency and emergency preparedness and response. Therefore, with this update we will address these high priority areas, in updating the EMP. Potential policy recommendations in this new section, would be based on the New Jersey plan for action in the aftermath of Super Storm Sandy. And they would include areas; first of protecting

25 critical energy infrastructure; second, improving

1 electric distribution company's emergency
2 preparedness and response, increasing the use of
3 micro-grid technologies and applications for
4 distributed energy resources, and last, for creating
5 long-term financing or resiliency measures such as
6 those through the energy resiliency bank.
7 Now a few words about the process
8 today. Before we hear from everybody, I would like
9 to set forth some expectations for this hearing, so
10 that we all know that we can present our views. We
11 have quite a few people as you can see, registered,
12 and we have a number registered to speak. And I
13 expect others from the audience will want the
14 opportunity as well. If you wish to speak, and have
15 not done so, please sign up at the back table and
16 make sure we have your name. I will be calling
17 individuals to speak in the order that they have
18 signed up, and will indicate in groups who the next
19 several speakers are. So to provide everyone an
20 opportunity to speak, I would also ask that you to
21 limit the length of your comments, and would ask
22 that you do so, to keep them to three or four
23 minutes, keeping within that time limit will help
24 assure everyone has the opportunity to be heard

today. I understand that's a relatively short

period of time to convey your thoughts, so I would ask you to focus on the specific goals and mechanisms and recommendations of the 2011 Energy Master Plan, and the emerging issues I have just mentioned. If there's a portion of the plan that you take issue with factually or as a matter of policy, please say so and state that and state your recommendation. However, I would also expect that comments be without personal criticism or otherwise not disruptive of those proceedings. I would also indicate if at any time these proceedings are disrupted, I will adjourn them until a time I feel that decorum can be restored.

If you have a written statement that will be provided to us, please give a synopsis, there's no need for you to read the entire statement into the record, as the written statements will serve as your comments. And will be reviewed by me and the rest of the members of the committee that will review and make recommendations on the New Jersey Energy Master Plan Update.

For participants planning to attend one or more of the other public hearings, I ask that you not repeat your comments at each of the

hearings. This will help everyone to provide the

opportunity to have spoken and made their comments. Now, if comments are made by a previous speaker, I would also ask you reflect on that, and plan to keep your comments as short as possible.

So we are here today to listen. No decisions will be made, other than for hearing the public's comments. I will keep any questions to the audience at a minimum, and it will be limited to purposes of clarification of any comments that are made. We will post all comments that have been presented at the public hearings and those received in writing on the EMP web site. And once again, that address for the website is www.NJ.gov/EMP.

As for the next steps in this process, we'll have two more public hearings; they will be held this Thursday, August 13 in Trenton at The State House Annex, Room 11 at 1:00 p.m. and on August 17, next Monday at Stockton College in the campus center at 1:00 p.m.

As I mentioned earlier, written comments are encouraged and the deadline to submit them is on August 24, following the written comment period, the staff, our staff of the Board and that of the various agencies that comprise the EMP

committee, including my colleagues, the Commissioner

of the DEP, the Commissioner of the DCA, Department of Health and Human Services, DOT and the Treasury will begin reviewing all the comments received. And the process of updating the plan will proceed from there.

We will not an establish a time frame for announcing the update to the EMP, until after we have had the opportunity to hear from all, and to review the public comments. We will need some time to digest the comments and to internally form discussions regarding those comments. Once we have done that, we will provide a time frame for finalizing the updates and publishing them.

Now, we will turn to what you have all come for, which is the opportunity to speak. I am told that the best way to handle this is that as I call names, I would ask you to just confirm you are the speaker that is signed up: The room is sufficiently oriented that you should be able to speak from the location where you are sitting or standing. That, hopefully, your comments can be captured in this room, and everyone should hear you. And additionally, I would ask you to make sure you speak up so that the court reporter who is sitting

to my left, it would be to your right, would be able

to hear and memorialize your comments.

Before I continue, I would also want to recognize our other colleague Commissioner Chivukula has joined us for the proceedings today.

All right. Now, we will start asking for individual comments from those who have signed up. And we will begin with our colleague from Rate Counsel, Ms. Stefanie Brand.

MS. BRAND: Good afternoon. Thank you, I know you want me to talk from my seat, but I do have copies of our statement for you and the court reporter.

Good afternoon, and if you can't hear me, let me know. I will do my best to speak. My name is Stefanie Brand. I'm the director of New Jersey Division of Rate Counsel, I would like to thank you for the opportunity to speak today regarding the update to the 2011 Energy Master Plan.

The Division of Rate Counsel represents and protects interest of all utility consumers, residential customers, commercial, small business, schools, libraries and other institutions. Rate Counsel is party in all cases before the BPU and gives consumers a voice in setting the energy,

water and tele-communications policy of New Jersey.

Our office will be providing comprehensive written comments by the August 24 deadline. We also do have printed versions of the statement, I will be giving today, which I'll be paraphrasing, I won't be reading. But if you would like a copy, let us know. We have extra copies for others. We also hope that interested parties will be given an opportunity to comment, even if only in written form on the actual update when it is completed. We believe that is what is contemplated by the statute, and we hope that -- while we appreciate very much the opportunity to comment while you are considering what to put in the update, we also very much also appreciate the opportunity to provide written comments on the ultimate product.

One of the reasons for that is that generally at least in the past, the updates have included updated data that Rate Counsel and probably most of people in this room don't have access to that. The Board and the State has better access to that. While we will do our best to comment today on the 2011 report; the availability of that data once the update comes out will allow us to comment at the level of detail that we would think would be most

helpful to the process.

Today my testimony will focus on one issue discussed in the July 22 updated notice, then I'm going talk about the emerging issues that are noted, then I will comment on some of the progress towards goals that was listed in the 2011 Energy Master Plan.

With respect to notice that came out. I just wanted to talk briefly about the statement in the notice that New Jersey has fallen from a high energy cost state to a range that falls within the national average for total energy costs. I assume it's taking into account electricity, natural gas, fuel oil and gasoline. It's not entirely clear from that statement how those numbers were derived. But we do know that as of 2013 as you mentioned, Chairman Mroz, the U.S. Energy Information Agency ranked New Jersey 10th in electricity costs, which is certainly higher than average.

Since then, and since 2013 the state has approved a number of large programs such as the PSEG's Energy Strong program. And our regional grid operator, PJM has made changes to its reliability pricing model that everyone believes will raise the wholesale capacity prices in the next auction.

Also, while New Jersey's ranking is down from what

it was a few years ago, it's not because our electricity costs have gone down. Instead, other states have surpassed us with our prices, thus we should be glad that or electricity prices have remained fairly stabile in New Jersey. But it would be foolish, and not entirely accurate to view our state as one that is no longer subject to high energy costs.

Like other states we have achieved some reductions in heating costs due to the drop of natural gas prices. This will continue as natural gas is being used more and more, not only for heating, but for electricity generating. If natural gas prices stay low, it will help us continue to with stabile electricity prices. Likewise, gasoline prices have been lower recently. If this continues it may help stabilize overall energy costs. However, we are still a high electricity cost state and we should make sure that we keep working towards progress in that area.

In terms emerging issue since 2011, protecting critical infrastructure. Certainly, since the storms we had a couple years ago, all New Jersey ratepayers are very concerned about the state

25 of the energy utility infrastructure to the level of

1 resiliency and hardening that will allow us to
2 withstand future weather events. Rate counsel
3 believes that reliable utility service is a basic
4 fundamental necessity. And that without these
5 critical services, customers can't live in their
6 homes or operate their businesses.
7 We agree that the EMP goal of
8 projecting critical infrastructure especially now
9 that we rely so heavily on electricity and gas
10 service. However, we don't agree with spending
11 ratepayer money on whatever project is purported to
12 improve the system without sufficient proof that the
13 spending is well thought out, cost effective and
14 assured to have a real impact on the hardening and
15 restoration of services.
16 The utilities should also not be
17 relieved of their obligation to spend the money
18 ratepayers already pay in rates to ensure reliable,
19 safe, adequate and proper service. They should not
20 earn the premium return that comes with alternative
21 rate mechanisms for capital projects. That should
22 have been done in the ordinary course of business.
23 In terms of improving the electric
24 distribution companies' emergency preparedness and

response; following Hurricane Irene actually, the

Board had taken some significant steps to improve that, our response to storms.

Back in December 2011 the Board ordered the EDC to comply with a series of staff recommendations to take immediate action. They then hired a consultant. And that consultant's review was ongoing when Sandy hit; and the Board in when accepting that consultant's final report ordered extensive recommendations in January of 2013 regarding, preparedness, communications, restoration response and event reporting. The Board was very specific in the actions that it was requiring the utilities to take and the timelines for them.

Subsequently, in March of 2013, the Board opened a generic proceeding and decided to engage the other companies to come up with ideas of how they might protect their infrastructure from major storms.

The Board has approved programs pursuant to that order, including the PSE&G Energy Strong program. And that work is proceeding. Thankfully, though, since we haven't experienced another statewide storm, we don't know yet the extent to which the work will be successful in

improving our resiliency in the future.

However, we have had one test of our resiliency since then. On June 23, 2015, a storm hit both the Atlantic Electric and PSE&G service territories. Atlantic was the hardest hit by that and had some difficulty in its storm response.

In particular BPU staff raised concerns regarding fielding customer communications by utilities when telephone and wireless communications are also impacted by the storm. I think this experience provides a valuable lesson to us as we proceed in our efforts to talk about storm response. Clearly, utilities have to keep regulators, customers and government officials informed of what's going on. And they must be able to communicate with field personnel.

However, as we go forward in the future most telephonic and wireless communications may be down in the same severe storms they that they are responding to. This is an issue that requires the attention, not only of the EDCs but of the telecommunications and wireless industries as well. No matter how much we work hard in our electric and gas utility infrastructure to deploy resources, if a reliable communication system doesn't exist, then

our storm response will suffer.

With respect to the Energy Resiliency Bank, we are very supportive of this program especially because the money spent in that bank is money that ratepayers don't have to pay towards projects. As of now, I do not believe that any grants have been awarded. Although, the first round of funding, I believe, is in the process for water and waste water treatment plants. But we would like to see more of that spent as we go forward.

Moving now to 2011 EMP recommendations. We remain supportive of the overarching goals contained in the 2011 EMP, including driving down the cost of energy, promoting a diverse, clean portfolio of energy generation, promoting energy efficiency and peak demand reduction, and supporting renewable sources. We believe we have had moderate success in that area, but there is always more that we can do.

I would like to take a second to talk about solar in the 2011 Master Plan. The Board has made it clear that it was looking to proceed with the great strides that we have made in solar, but balance them sensibly with economic and political realities. The EMP calls for rigorous testing of

25 the net economic benefits to New Jersey when looking

1 at the solar programs.
2 Rate Counsel supports maintaining
3 these goals. We think that the solar industry in
4 the state has come a long way.
5 MEETING PARTICIPANT: Time.
6 PRESIDENT MROZ: Excuse me. We will
7 keep the time down here.
8 MEETING PARTICIPANT: The rest of us
9 would like to talk.
10 PRESIDENT MROZ: All right. Thank
11 you.
12 MS. BRAND: I will speed it up.
13 PRESIDENT MROZ: I appreciate your
14 brevity, Ms. Brand. We have obviously the entirety
15 of your comments in written form. But please
16 proceed.
17 MS. BRAND: We strongly support
18 maintaining the programs that we have now in solar.
19 But we do not believe that new financing from
20 ratepayers should continue. We know that cumulative
21 payments through 2014 ratepayers have spent over
22 $950 million for SRECs, $360 million in SBC charges,
23 $480 million for other OCE programs, as well as
24 money spent for other programs sponsored by the

utilities, which totals a lot more. Overall we are

talking about billions of dollars of ratepayer money going to support worthwhile programs. But we have, at this point, the solar industry definitely needs to learn how to operate without state subsidy, without ratepayer subsidy.

With respect to energy efficiency, we believe we need to do more. We certainly have achieved a lot but, we are now the ACEEE ranks us s us as 26th in the country. We need to do better. We've been working with utilities and the office of Clean Energy to coordinate programs to make sure we have better measurement and verification. And we strongly urge the Board to continue its progress towards the retention of a single administrator to administer these programs. We believe that the better measurement and better verification, we can determine what is the appropriate role for the utilities and what is the appropriate role for the Office of Clean Energy going forward.

We would also like to see more programs aimed at low income customers. The recent Apprise study on our Comfort Partners program raised concerns for us. And we would like to see those issues addressed so that the programs provided for

those customers can be improved.

Finally, we would like to see updated building codes and appliance standards. We have not updated our building codes for almost five years since September 2010, that was building codes, and we have not updated our appliance standards since 2005. We think that will go a long way towards allowing us to provide greater energy efficiency.

Finally, we also believe that both the Clean Energy Program and utilities should be offering their energy savings into PJM's capacity markets. It's another stream of revenue available that will help increase our energy efficiency.

With that, I will end my remarks.

PRESIDENT MROZ: Thank you, Ms. Brand. Thank you for your comments. We will review the remainder of what you have submitted.

Thank you. So you know who is sort of coming up on the list, so you can prepare yourself. We will take the next -- identify next several speakers.

Next would be Robert Gibbs, from Direct Energy, then a Rosemary Carey, who I believe had may be a citizen, no representation. And thereafter, Joseph Accardo from PSE&G.

25 So Mr. Gibbs.

1 MR. GIBBS: We are going to submit
2 written comments. We will waive comments today.
3 PRESIDENT MROZ: Thank you. You have
4 submitted the comments already?
5 MR. GIBBS: We will be doing that.
6 PRESIDENT MROZ: Thank you for being
7 here.
8 Rosemary Carey.
9 MS. CAREY: Hello. Okay. Great.
10 Thank you for taking my comments today. I'm here
11 representing 350 NJ, the New Jersey chapter of
12 350.org, the global planet solution organization
13 founded by Bill McKibben and a hand full of students
14 back in 2007.
15 So every one in the room knows what
16 the 350 stands for; it's what scientists say is the
17 safe upper level of carbon dioxide in the
18 atmosphere, but because we continue to burn fossil
19 fuels in 2014, we have already reached 400 parts per
20 million in carbon dioxide.
21 So our group in New Jersey was
22 instrumental in helping mobilize thousands of New
23 Jerseyans to Peoples Climate March in September 2014
24 and we continue to organize for climate action and

environmental injustice.

First, I would like to express 350 NJ's solidarity with the people rallying outside this hearing from Newark's Ironbound Community. The group has chosen to protest this hearing process because their voice was not heard in prior decisions affecting their community. Decisions that put polluting infrastructure such as Newark's Energy Center in their neighborhood. We urge the BPU to ensure that environmental justice is one of the primary tenets of the 2015 Energy Master Plan.

The EMP adopted in 2001 calls for increased reliance on New Jersey's dependence on natural gas. Which we know is not the clean transitional fuel it was touted to be four years ago. In light of what we have learned since then about the very high greenhouse gas footprint of natural gas, and I point to the Cornell University Study by Howarth, et al: Which makes it as dirty as coal. Our energy policy needs to shift gears. A business as usual plan would lock New Jersey into reliance on fossil fuel sources for the next 50 years. Without a rapid and dramatic shift to renewable energy sources like wind and solar, the EMP will fail to accomplish what it sets out to do,

which is lower energy costs. Instead it would

simply shift economic and healthcare costs to ratepayers and taxpayers of New Jersey. Especially people in low income and minority communities where these dirty plants are or will be located. It's essential that New Jersey's energy policy be integrated with climate mitigation.

The 2011 plan is entirely insufficient in this regard. More needs to be done and faster. Instead of relaxing goals and perverting the definition of clean energy to include nuclear and natural gas, we need to be totally aspirational and set goals that challenge the status quo. New Jersey can meet its energy needs and make renewable energy available and affordable to everyone.

The Solutions Project, which you know learn about at, TheSolutionsProject.org is a collaboration founded by Professor Mark Jacobson, director of atmosphere and energy program at Stanford University with stakeholders from industry venture capital, government NPOs, it shows how all 50 states can make a 100 percent transition to renewable energy by 2050.

As it turns out New Jersey has all of

25 the natural resources we need to get our energy from

1 wind, water and solar for electricity,
2 transportation, heating, cooling and industry use.
3 This will take a mix of sources; offshore wind, on
4 shore wind, solar photovoltaic, residential,
5 commercial and governmental roof top PV, and wave
6 devices. By harnessing these ample natural
7 resources that New Jersey has, the plan will result
8 in better health and more money in the pockets of
9 New Jerseyans.
10 For example 1,528 air pollution
11 deaths could be avoided each year under this plan
12 $7,504 in annual energy, health and climate cost
13 savings per person could be saved and 86,000,
14 40-year jobs would be created.
15 New Jersey should not stand by as our
16 rank falls from second in solar installations in the
17 U.S. to 6th as it reports today on the Solar Energy
18 Industry Association's web site, or watch Rhode
19 Island open the nation's first offshore wind farm,
20 as it did last week. That should be us.
21 We have the natural resources, we
22 certainly have the motivation in terms of economic
23 job creation, health and climate integration. Now
24 all we need is the whip. The time is now and the

children are watching.

PRESIDENT MROZ: Thank you, Ms. Carey.

MEETING PARTICIPANT: Yeah. I don't know about you all, but I'm going down to the rally where it really matters -- not here -- where everyone has a voice. This is nothing.

PRESIDENT MROZ: Excuse me.

Where were we?

The next speaker is Mr. Joseph Accardo from PSE&G.

MR. ACCARDO: Good afternoon. My name is Joe Accardo. I am Deputy General Counsel for PSE&G.

Thank you, President Mroz, BPU Commissioners and staff for providing this formal opportunity to comment on the status, excuse me, goals of, and the recommendation of the 2011 Energy Master Plan.

PSE&G has a long history of partnership with New Jersey. Aligning its interests with those of New Jersey. Significantly we agree with the Board that there certainly is more work to be done, New Jersey is making good progress towards achieving its EMP goals; lowering costs to consumers

promoting energy efficiency and energy conservation

and supporting renewable energy particularly on landfills and brown fields in way that maximizes their beneficial use.

With respect to the overarching EMP objective of lowering energy costs, since 2009, PSE&G's residential gas bills are down 44 percent because of lower cost of natural gas supply.

We agree with the Board's recommendation to focus on infrastructure investment to improve energy resiliency, emergency preparedness and response. Infrastructure investments that enhance the reliability and resiliency of the electric and gas systems will benefit all customers and create jobs.

PSE&G has supported and looks forward to continuing to support the EMP's goals of making energy accessible, reliable and affordable; maintaining a balanced portfolio of clean generation resources, delivering the economic and environmental benefits of energy efficiency; and supporting new energy technologies and renewable energy investments.

In that context, I would like to focus my remarks on five key areas where PSEG

25 continues to advance the EMPs goals by investing in

1 New Jersey. The first resiliency and infrastructure
2 investment, PSE&G has already begun to address the
3 need for a more resilient electric and gas network
4 with its Energy Strong program. In doing so we will
5 create 2000 jobs to bolster the states economy.
6 These improvements will reduce methane emissions
7 caused by be leaks in older infrastructure, reducing
8 green house gas emissions by a total of 38,000 tons
9 of CO2 a year and will support increased use of
10 natural gas for traditional applications as well as
11 emerging technologies. Such as residential fuel
12 cells, combined heat and power equipment and
13 compressed natural gas vehicles.
14 PSEG is also persuing with the Board
15 further efforts to proactively modernize its gas
16 systems, to promote safe, clean and reliable natural
17 gas systems well into the future. Cast iron and
18 unprotected steel gas pipes represent less than 30
19 percent of PSE&G's infrastructure. But they account
20 for more than 80 percent of our distribution
21 system's methane gas leaks each year.
22 Our objectives remain to provide our
23 customers and the communities which we serve with
24 the environmental benefit of reduced greenhouse gas

emissions and a positive impact on employment in the

New Jersey economy.

The EMP should support further efforts to continue resiliency and infrastructure investment progress. In particular, the EMP should recognize the need for regulatory reform that would create a more standardized process for making resiliency investments including the accelerated replacement of old gas mains. Utilities and their customers would benefit from greater predictability of the process and goals in order to more effectively plan out these large infrastructure investments, so that they are made in a timely manner, lead to more consistent job creation and are structured in a way that maximizes expenditure efficiencies on behalf of the ratepayers and thereby minimizes rate impacts.

With respect to clean conventional generation following the publication of the 2011 EMP: It has been made clear that adjustments can be made within the market system to facilitate investment in clean generation, when and where needed and in the most efficient way. New Jersey has seen new clean natural gas generation developed without customer subsidies. And the market

25 continues to ensure reliable supply for New Jersey

1 and the whole PJM footprint. We recommend that
2 references to alternative approaches be removed from
3 the 2011 EMP. Well-functioning competitive power
4 markets remain the best way to ensure reliable
5 supply and foster investment.
6 New Jersey currently has a
7 well-balanced portfolio of power resources including
8 over 4,000 megawatts of nuclear power over 7,300
9 megawatts of clean natural gas power plants, almost
10 2,000 megawatts of coal power and approximately
11 1,700 megawatts of renewable resources.
12 With regard to nuclear energy, New
13 Jersey's nuclear facilities provide about 50 percent
14 of all the power generated in the state, all without
15 any harmful pollution or carbon emissions. Nuclear
16 energy is also a source of jobs and economic
17 development in the state, not only at its nuclear
18 facilities, but through the local nuclear supply
19 chain as well. For example, most recently PSEG is
20 proud to be supporting the State and working with
21 Holtec International to explore small modular
22 reactor design and development.
23 The nuclear industry is facing
24 growing challenges from increasing regulatory and

25 safety compliance costs. The EMP needs to strongly

1 support and incent New Jersey's nuclear industry
2 consistent with its support for other emission-free
3 resources.
4 With respect to solar energy PSE&G's
5 Solar For All and solar loan programs have helped
6 make New Jersey a national leader in the deployment
7 of solar energy. In particular, since the release
8 of the 2011 EMP, we have transitioned our solar
9 energy focus to target landfills and brown fields
10 throughout the PSE&G service territory. This
11 approach has thus far developed 31 megawatts of
12 landfill solar energy with almost 53 megawatts due
13 to be in service by the end of 2016.
14 I am pleased to report that landfill
15 solar development has created hundreds of jobs,
16 driven additional economic development and perhaps
17 most significantly made productive use of
18 underutilized sites while preserving clean farmland.
19 Moreover, this development has been achieved at
20 roughly 60 percent of the cost of rooftop solar
21 systems, with costs and benefits fairly shared
22 across all ratepayers.
23 In summary, the 2011 EMP
24 determination that brown fields and landfills are

25 well-suited for the development of large solar

1 generation appears to have been borne out, and the
2 EMP update should continue to support solar on these
3 sites. PSEG looks forward to continuing to
4 contribute to solar energy development generally as
5 well as with these more complicated parcels of
6 property.
7 Last but certainly, not least the
8 2011 EMP places a strong emphasis on energy
9 efficiency and PSEG has been the leader among
10 utilities in helping the State pursue its energy
11 efficiency goals. PSEG has played a key role in
12 delivering energy efficiency to hospitals,
13 multifamily housing facilities, small commercial and
14 industrial customers, government buildings and
15 senior citizen housing. We have received Board
16 approval to invest over $400 million to successfully
17 assist customers with cost beneficial energy
18 efficiency upgrades that have reduced operating
19 costs, increased competitiveness and help these
20 businesses retain and add jobs.
21 We would like to collaborate with the
22 Board, and other stakeholders to expand upon this
23 role and further help reduce customers' bills, clean
24 the environment, and put more money back into New

Jersey's economy.

Energy efficiency is the lowest-cost solution offered in the EMP and will serve to create jobs and promote economic development. New Jersey should continue to promote the use of energy efficiency to meets its energy goals, and the utilities can play a critical role in delivering energy efficiency. The EMP should seek to expand energy efficiency initiatives and align the incentives for utilities to deliver energy efficiency to customers.

In particular, more clarity on the utilities' role on delivering energy efficiency would help all parties. Our utility programs have attempted to evolve along with changing state policy goals, however, the remaining uncertainty around the utility role means that our business only exists on a filing to filing basis. This makes it difficult the plan, staff and more fully integrate the goal of saving customers energy into the day to day business of the utility.

In closing, for over 110 years Public Service has succeeded by aligning its business interests of our customers and the State's larger policy goals. We are eager to continue this

tradition, working together to drive greater

efficiency in New Jersey. Thank you for the opportunity to appear here today and provide these comments.

PRESIDENT MROZ: Thank you.

The next several people that I would call on in order are Franklin Neubauer from CoreMetrics, Meredith Knolls from the America Efficient Lighting Associates, I believe and Sally Yeller of Wood-Cliff.

So first Mr. Neubauer.

MR. NEUBAUER: I hope everyone can hear me. I'm Franklin Neubauer, principal at Core Metrics. I have 11-years' experience in energy efficiency planning, energy modeling and demand analysis. I will address key issues in energy efficiency planning and forecasting, and estimate the economic impact of failing to pursue more energy efficiency, I will have handouts for the Board and for 25 other people.

New Jersey has not had clear, long-term, energy efficiency goals since 2011. The Administration blurred a distinction that analysts make between savings from energy efficiency programs and lower power system loads due to other causes.

25 It was after the recession the 2011 Master Plan

1 said; quote: The state's energy use goal remains
2 the same as the 2008 EMP. But the 2020 target now
3 represents a smaller percentage reduction relative
4 to the most PJM forecast, end quote.
5 The administration pointed to
6 declining PJM forecasts. But it failed to look at
7 PJM data or it deliberately mislead the public about
8 the aggressiveness of energy savings. 2011 data
9 revealed a major drop in the electric load forecast,
10 implying that New Jersey had cut its target for
11 energy program savings by the same amount. That
12 would effectively cut future energy efficiency
13 programs by 85 percent.
14 I explained that consequence of PJM's
15 forecast in EMP comments on August 25, 2011. To be
16 certain the BPU understood those comments, on
17 September 1, 2011, I had a long phone call Mary Beth
18 Brenner of the BPU staff. But the administration
19 never corrected its claim, sticking to its story
20 that we would have aggressive energy savings. And
21 it never reported my official comments, which it was
22 obligated to disclose.
23 Since 2011 I learned PJM's net energy
24 forecast is unsuitable for New Jersey's direct use.

25 It gives an incomplete view of the state. It only

1 includes energy supply over PJM's grid and excludes
2 the following; rooftop solar, combined heat and
3 power other distributed generation, back up
4 generators, behind the meter generation and
5 generation which power plants consume on site.
6 Trends in these types of generation, in addition to
7 the recession, all contributed to a decline in PJM's
8 energy forecast from 2008 to 2015. But that
9 generation that I just categorized still occurs in
10 New Jersey. It just doesn't show up on PJM's grid.
11 The resulting load forecasts for PJM
12 should not be tied to an energy savings hold. I
13 cannot tell how far New Jersey's misinterpretation
14 of PJM's forecast extends. I am concerned about
15 renewable energy targets being set based on PJM's
16 data, and concerned with the possibility that New
17 Jersey is relying on the use of PJM data to
18 demonstrate compliance with other laws. Whatever
19 load forecast New Jersey uses in the future, a goal
20 linked to the forecast would bounce around so much
21 that it could not be used to plan programs.
22 In short there's no sensible way to
23 calculate an energy savings goal based on the 2011
24 EMP. However, a specific energy savings goal of

15,000 gigawatt hours was top priority in 2008.

Going back to an achievable and truly aggressive target would be consistent with planning practices elsewhere in the U.S. however to be effective in New Jersey, that needs to be combined with annual milestones and funding that can't be diverted.

Besides changes in the 2011 EMP other developments have led to New Jersey's decline from its former status as a leader in energy efficiency. Major clean energy investments in response to global warming are more urgent than ever, but New Jersey continues to overlook energy efficiency, which is the lowest cost resource in favor of natural gas. In 2008 New Jersey commissioned an energy efficiency strategy with national experts, which offers many new ways to save energy, cost effectively. In other words, at a fraction of the cost of new gas generation, not only were the experts' recommendations ignored, but existing funding was raided or eliminated, wasting billions of the dollars of benefits that could have come to New Jersey. Based on the 2009 study by Northeast Energy Efficiency Partnerships for the New Jersey Board of Public Utilities, I estimate the value of direct

benefits that New Jersey missed by not pursuing more

aggressive energy efficient during 2010 to 2015, at 11.5 billion dollars. Those benefits are attributable, mostly to lower utility bills lasting over many years. That estimate excludes benefits from job creation, the stimulus effect on New Jersey's economy, and public health benefits.

In addition the BPU and state agencies have lost experienced people and expert consultants who knew about energy planning nationally and internationally. The efficiency experts whose work for New Jersey was ignore, are busy helping other states.

In the final EMP, the administration should have provided clear, specific goals and corrected its misleading use of the load forecast. I documented those issues and followed up with BPU staff, to assure the administration understood prior to final EMP. Besides my own comments from August 2011, official comments from outside energy efficiency experts were not published in EMP records, that includes letter from ACEEE, America Council for Energy Efficient Economy and Northeast Energy Efficiency partnerships in August 2011. If you weren't a specialist in power planning in 2011

25 or didn't learn about it from specialists, there was

1 no way to put the energy efficiency part of the plan
2 in to context. The EMP's claims aggressiveness of
3 energy efficiency and a hugely exaggerated graph in
4 the EMP report were key information that people
5 relied on.
6 Thank you for this opportunity to
7 speak. I want to respond to related questions.
8 PRESIDENT MROZ: Thank you for the
9 comments. We will not have question and answer
10 here. But I appreciate the comments, and I do have
11 your comments that are to be submitted in writing,
12 and that would be appreciated to make sure the
13 record is clarified.
14 MR. NEUBAUER: Right. So the
15 forecasting, benefits and cost are technical issues,
16 I don't want misunderstanding to linger.
17 PRESIDENT MROZ: Fine. We appreciate
18 that. Thank you.
19 Next person on the list to comment is
20 Meredith Knolls. Is Meredith Knolls here? No.
21 Okay.
22 Next on the list is Sally Gellar of
23 Wood-Cliff.
24 MS. GELLAR: Yes. Sally Gellar from

Wood-Cliff Lake, New Jersey. Thank you for holding

this hearing. Last year I participated in a project of assembling a large party of stakeholders in New Jersey's energy policy, and I helped -- as a result of that project, reported to the Senate Environment Committee on July 2014 and a study by the BPU as part of the update of the Energy Master Plan. I had hoped to testify at the 2011 hearing that in four years, we would have administered a project getting away from fossil fuels and nuclear energy as a source of energy, that we would have had a clearer focus on energy efficiency and accommodating distributed generation. And our admirable focus on cost reduction for consumers would not blind us to the environmental climate and public health costs of our energy policy. I still hope this final update to this plan will be visionary, not just an extension of business as usual. I hope that there is a substantial outreach from community members who still feel disenfranchised. The residents of low income communities of color, where so much of our energy infrastructure is located.

I am frustrated by so often hearing the phrase "clean natural gas." It is not clean, it is perhaps in comparison to coal and oil. We need

this update to the Energy Master Plan to properly

find define clean energy with scientific accuracy and specifically removing natural gas and nuclear energy from that definition. Natural gas is anything but clean, leaking methane and extremely potent greenhouse gas is almost impossible to avoid. In addition, investing limited public funds for gas infrastructure delays and completely stops investment in solar, wind and other renewable energy sources, distracts us from looking at storage and transmission needs.

Nuclear energy is not clean either. Although one does not see greenhouse gases at the site of a nuclear reactor, the Uranium that is required for fuel creates a substantial amount of mining and refining, that releases a substantial amount of greenhouse gas in mining and refining in the largely indigenous environmental justice communities in the American west and overseas where Uranium is found. In addition the effects of radiation that leaks during operation, around the clock, has health effects, being connected with increased risk of thyroid cancer in local communities as well as possible childhood leukemia, as shown in French studies.

25 Superstorm Sandy was indeed a wake-up

1 call. The governors right to emphasize resiliency
2 is a liability. One of the most effective ways to
3 do this is through greater distributed generation
4 and enforce the micro-grid.
5 Personally, I would like to see solar
6 panels on all big box stores and a canopy of solar
7 panels over all large commercial parking lots. We
8 would also do well to look at what New York is doing
9 in its reform of the energy vision plan, looking to
10 distribute generation community solar. Of course
11 their investment is funded in part by the funds they
12 receive from their participation in RGGI. We're
13 beating a dead horse here, but we have denied the
14 funds by our governor despite the legislatures
15 passing of multiple resolutions supporting New
16 Jersey membership in that regional project.
17 Although a 22 and a half percent
18 renewable energy is too low, we need to be visionary
19 and stretch to a renewable energy goal to help
20 climate change that is so devastating. Instead this
21 master plan and its goals are far from visionary.
22 Our focus on cost savings is too intense to make the
23 effort needed to make the investment needed to
24 protect our health and environment and create new

jobs and healthier communities.

I respect everyone who took the time to come to this hearing, I will review the public record for your comments. But I'm going to take the opportunity to go downstairs and talk to the residents of the Ironbound who do not feel that they have been significantly included.

Thank you for your time.

PRESIDENT MROZ: Thank you for your comments.

The next speaker on the list is, and the next several in order are, Richard Grant, Mike Proto and Jeff Hogan.

Mr. Grant.

MR. GRANT: Thank you for the opportunity to speak and to listen. My name is Richard Grant. I am a New Jersey resident and ratepayer, a voter, a volunteer for 350 NJ, a and volunteer for the Sierra Club.

For now New Jersey may have fallen from a high energy cost state to a range that falls within the national average for total energy costs but how long can that last when the cost of renewables and energy storage continue to drop and a shift to their use moves more quickly in the state's

25 that New Jersey competes with for economic growth.

1 Particularly states that have renewable energy
2 portfolio standards and higher percentages of use
3 and earlier deadlines, and states that have
4 long-term binding energy saving targets. So it is
5 essential that New Jersey both strengthen the
6 renewable energy portfolio standards and create
7 long-term binding energy saving targets.
8 I want to focus my remaining time on
9 the one initiative I believe this administration
10 could achieve outside results with before it leaves
11 office. There is a paragraph on page 107, that is
12 the printed page, not the PDF page of the 2011 plan
13 that begins this way: Many New Jersey residents are
14 not able to take advantage of individual PV systems
15 barriers to entering include the high upfront costs,
16 the unfavorable orientation of the roof tops of
17 their homes and lack of home ownership, among other
18 things. Solar systems through which numerous
19 residences are connected behind the meter to a
20 centrally located unit can drive down the cost of
21 solar for individuals and provide an economic
22 benefit, and environmental benefit.
23 Well, there's no doubt that the
24 preceding sentence refers to an option for deploying

25 solar energy technology that's newer than rooftop

1 panels and utility scaled farms. It's called
2 community solar, it's also called solar garden or
3 shared solar. Even if every U.S. household wanted
4 to own or lease an individual PV system on their
5 property, roughly 80 percent of them couldn't
6 according to U.S. Department of Energy's National
7 Renewable Energy Laboratory, for a slew of reasons:
8 They don't own the building they live in, they don't
9 have their own roof, they have limited space, their
10 roof is a poor structure, they don't have enough
11 sunlight, the can't afford the upfront cost, they
12 can't commit to staying there long-term, they're
13 blocked by building codes or zone restrictions, or
14 they don't want to maintain the system.
15 The way community solar works is
16 this; there is a project, a solar PV panel array
17 mounted on the ground or on a roof, and each
18 customer owns or subscribes to a portion of the
19 project, when the project's electricity is delivered
20 to the utility, the utility credits each customer
21 for the customer's share of the electricity output,
22 and the customer's bill gets reduced by the credit.
23 And it benefits the utilities, the developers and
24 ratepayers. The utilities can recover their fixed

costs for the transmission and distribution

infrastructure. And at the same time promote growth of renewable energy to meet the state renewable energy portfolio standards.

The developers benefit. Community solar is less expensive to install than the equivalent amount of rooftop systems. And the straw costs of development drops, such as customer acquisition, financing, contracting, permitting, interconnection and inspection, installation, performance, operations and maintenance. It is a job-creating environment. And the ratepayers benefits ratepayers, ratepayers who have been paying a utility bill service charge for renewable energy and energy efficiency programs can now themselves access renewable energy.

The first community solar project was developed in Colorado Springs, Colorado in 2010. Since then in the U.S. there have been 52 active projects and 29 under development. At least one active project in operation in 24 states. Community solar laws have been enacted or are in the process being enacted in at least 20 states and the District of Columbia. And the White House announced in early July to promote this are expected to

25 increase its already rapid grown. A report from the

1 GTM Research forecasts that community solar will
2 have a compound annual growth of 59 percent and that
3 by 2020 half a gigawatt installed annually, with
4 both utilities and rooftop solar companies entering
5 the market. Solar City the largest rooftop one
6 that's making a big push into Minnesota now.
7 So here is New Jersey, a densely
8 populated urban state with numerous ratepayers, who
9 rent or who are low income or both, already ranked
10 third in the country in installed solar capacity,
11 with hundreds of solar companies, employing
12 thousands of state residents. The interest is
13 there, the development infrastructure and expertise
14 is there, the need is there. So the administration
15 should pursue community solar aggressively through
16 working with the state legislature to pass enabling
17 legislation, timely issue administrative rules,
18 encourage utilities, rooftop solar companies and
19 non-profit community organization to offer community
20 solar. Even consider acquiring utilities to offer
21 it, and to make New Jersey residents, businesses and
22 local governments aware of the opportunity.
23 I've read the report again, the 2011
24 plan in the time since it's December 6, 2011

release. Every reason it included to justify

hesitancy on the aggressive adoption of solar power technology, has fallen by the wayside due to market forces and innovated technology.

Thank you.

PRESIDENT MROZ: Thank you.

Next individual on the list is Mike Proto from Americans for Prosperity, New Jersey.

Mr. Proto.

MR. PROTO: Thank you to the Board for the opportunity to speak today. I know a number of people are waiting. I will do my best to breeze through my testimony.

Again, my name is Mike Proto. I am the communications director for the New Jersey chapter of the Americans for Prosperity. I'm here today representing more 100,000 activists with our organization, across the State of New Jersey.

Americans for Prosperity is committed to safe, affordable and reliable energy across the country and New Jersey is no exception. Access to affordable energy is not only essential to economic growth and jobs in the state of New Jersey, but also important to many of those struggling to pay their bills in this tough economy. With respect to the

25 various goals within the Energy Master Plan,

1 Americans for Prosperity contends that these goals
2 sound positive on paper, but in reality many of them
3 are unrealistic in their assumptions and even
4 contradictory.
5 For example, the RPS is unrealistic
6 and expensive. Around the country, states are
7 beginning to face the reality that when it comes to
8 the costliness in addition to the associated
9 renewable energy portfolio standards, most zero
10 emissions energy sources excluding nuclear energy
11 has played a vital role in New Jersey's energy mix
12 are intermittent. Meaning they only provide energy
13 when the wind is blowing or the sun is shining.
14 In order to maintain grid reliability
15 wind and solar farms often have to construct coal or
16 natural gas power plants to provide energy during
17 peak hours to insure grid reliability. This reality
18 combined with the fact that solar and wind
19 technology is still more expensive than to
20 traditional sources, leads to higher prices for
21 consumers.
22 This is a fact that the Energy
23 Information Administration and groups like the
24 Institute for Energy Research have all documented;

25 that wind and especially offshore wind is much more

1 expensive than traditional onshore wind.
2 In April of 2015 New Jersey generated
3 4878 gigawatt hours of energy and only 3.3 percent
4 of New Jersey's energy mix came from renewable
5 sources. Increasing from 3.3 percent to 22 and a
6 half percent, will not only drastically increase
7 costs but it will also threaten the reliability of
8 the energy grid as a whole.
9 Americans for Prosperity believes
10 that New Jersey should stop subsidizing expensive
11 and unreliable power. We believe in a free market
12 in the energy sector. We believe that artificial
13 markets, whether RGGI or the solar sector with the
14 SRECs, the SREC credits do not work. For example
15 Governor Christie had to double down on the
16 expensive energy sector by passing a bill in effect
17 to bail out or prop up solar credits, which crashed.
18 This alone expected to increase costs for New Jersey
19 ratepayers by 300 to $400 million, a move many
20 simply cannot afford. In a similar vein, county
21 governments have been putting their local taxpayers
22 on the hook by selling bonds to finance expensive
23 solar projects. Predictably when these risky
24 gambles fail to meet their lofty promises, taxpayers

25 are left holding the bag. And that has been the

1 case in places like Sussex County, Morris County and
2 Somerset County more recently.
3 I wanted to take a moment to commend
4 the body for repeatedly rejecting an offshore wind
5 scheme off the coast of Atlantic City. This project
6 proposed by the Fishermen's Energy has been judged
7 by an outside auditor, at least the original
8 proposal, to be the most expensive offshore wind
9 power in the world. Likewise, the Board has
10 determined the project does not meet the net
11 economic benefit test and would be harmful to
12 ratepayers. Offshore wind remains just about the
13 most expensive way to produce electricity on the
14 planet and simply cannot work without massive
15 significant subsidies.
16 Americans for Prosperity believes
17 that that project will never be viable. In addition
18 Americans for Prosperity believes New Jersey should
19 reject the clean power plant proposed by the
20 president's administration through the EPA. In
21 order to meet the EPAs new mandate New Jersey would
22 be forced to greatly expand the use of both solar
23 and wind in its energy mix, as well as force
24 traditional power generating facilities to install

25 expensive new equipment. This would inevitably

1 raise rates and hurt many New Jerseyans living on
2 fixed incomes. Furthermore the EPA's legal
3 authority to enact this draconian regulation is
4 contentious at best.
5 In conclusion, I would like to say
6 instead of doubling down on expensive and
7 inefficient policies, New Jersey should look to take
8 its energy sector in a bold new direction. Rather
9 than carve out this specific industry, which will
10 foster an environment of cronyism and political
11 favoritism, New Jersey should embrace America's
12 energy revolution to deliver safe, reliable and
13 affordable energy to all its residents. This means
14 rejecting top down mandates from Washington and
15 Trenton and embracing free-market policies in the
16 energy sector, which will keep costs down and help
17 provide prosperity for all in the State of New
18 Jersey.
19 Thank you.
20 PRESIDENT MROZ: Thank you.
21 Our next speaker, I'm not sure he is
22 here; Jeff Hogan. Mr. Hogan from J & L Electrical.
23 Okay.
24 Also signed up is a Ryan Barry,

MR. BARRY: I'm here to listen. I wasn't planning to speak today.

PRESIDENT MROZ: Very good. Thank you for being here.

The next several individuals on the list signed up are Rezwan Razani, of Footprint to Wings, Arcadia Lee Papalski, and Barb Blumenthal. The first person will be Rezwan Razani.

MS. RAZANI: Hi, there. Thanks, yeah, thank you the Board of Public Utilities President Mroz and my fellow citizens. This is just an honor to be here and participating in democracy.

And I love this plan, I read the Energy Master Plan, at least parts of it. I used quick search to get through it.

I'm representing Footprint to Wings. We are a non-profit launching, coaching and tracking the race to be the first net zero carbon state.

Now, so you know New Jersey ranks Number 14. We are Number 14 in the race to lower carbon emissions, with 12.45 metric tons per person. And in the lead is New York state with 8 metric tons per person, so they beat Germany.

So the way I look at this Master Plan

25 is kind of like a play book. And we are basically

1 coaches for the state. And so the step one is the
2 purpose of the master plan. You gave the five key
3 goals, and lot of these, they're great but they are
4 small in a way. They're incremental. They are
5 good, they're awesome. And that fifth one, the
6 renewable portfolio standard is the one that is the
7 most critical and I hear a lot of conflict about
8 that goal. So if we want to pull together as a team
9 going somewhere, we've go to be very clear what that
10 goal is.
11 The point is this is a master plan in
12 the era of climate change. And so some people have
13 brought up that issue that we need to have a bolder
14 goal. So my recommendation is into make that clear,
15 bring at up front, clarify what we need. You know,
16 are we going to have a plan to get to zero carbon.
17 What is our plan? Is it just the renewable
18 portfolio standard.
19 And I would like to add -- I don't
20 know if everybody's seen the carbon bathtub info
21 graphic from National Geographic: It's an excellent
22 way of explaining what the problem is and that we
23 really do need to get to have a zero carbon
24 emissions goal. Because anything else is just

buying a little bit of time; probably not much.

So the other thing is the playbook needs to make clear what's the cost of inaction? So somehow try to quantify that. Make it -- this -- the purpose of the playbook is to really try to help you visualize and grasp what's at stake. So that is the responsibility of this document. That is its role so to clarify the cost of inaction.

And then that brings us to, there is an interesting conflict running through this document; which it's been brought up by a number of speakers here, which is the nuclear versus renewable conflict. Actually two; one is that you can tell there is a conflict about the overall goal. The 70 percent by 2050 renewable portfolio for electricity only is contradicted within this by GWRA goal of 80 percent for everything. So first that's already a built-in contradiction. On top of that we're not -- some of us want to go all the way to zero. Some want incremental market changes.

So I'm not sure how this document would go about resolving that, other than to just present it. It's here, it exists, here is a conflict people. What do you want to do about it? You know, you've got to get the team to huddle and

figure out what they're going to do.

So put everything on the table, the conflict. And then the definition. We're already if you -- it does state as the 350 group indicated, it does state within this document that even the modest 70 percent only target isn't achievable unless we redefine this to include nuclear. So that's kind of a slight of hand, because already we are at 50 percent of zero carbon. So why not state -- you know, we're already at 50 percent. If we add the 22.5, we will be at 70. That's nice. I mean, you're already ahead of the game. And then, we can go further than that, let's go all the way to zero.

And then -- so there is that. Finally definitely include scenarios -- what I'm hearing is some people say we can do it with wind and solar. Some people talk about nuclear. Include them as a scenario. You can add a disclaimer saying look, we're not saying we should do these, but people have asked and people want to know what would it take to get zero? How quickly can we do it? What's it going to cost the people of New Jersey? And use math and maps.

And this is really critical because I have, I happen to have a copy of the solutions

project plan for New Jersey, and it's very

ambitious. It calls for 65 percent of the energy to come from offshore wind. There is a calculation here that says that would be 5,000 turbines off the shore of New Jersey, which is 130 miles long. You guys note here that that is not even taking into consideration the inefficiencies.

So you actually would really need 12,000 turbines to give us the 40 percent capacity rate. And that, I did the math. So when you do the math with the map, that comes to 92 wind turbines per mile along the coast. So I don't know if people are really up for that. That's the renewables plan. But just clarify. It's not your job to judge it. It's your job to say, okay, if that's the plan it's just a few pages, you can write it down and show us what it would take to say, okay, you know, this is the renewables plan: We've got wind turbines, we've go the onshore solar and your best estimate of where these would go, based on the engineering of the state.

And then if you can combine with Google to turn this into a visualization. So the person can go online and say, okay, this is what my county would look like. This is where the panels

would go. This is okay -- I like it, I don't like.

And then do the same for nuclear. Say well, you're going to need ten power plants, 20 power plants, where would they go, which neighbors are impacted. That way we can also address the social justice issue. And bring it back to the people of those communities. And say, look the master plan has pointed out that we want to get to zero; this is kind of where we would need stuff. How do you feel about that. Then we can give it back to the citizens to work out a system to decide what they want.

So that is how it would work as a playbook that engages the whole team, which is all the citizens of the state to make a difference.

And, yeah, so that is my recommendation. Thank you.

PRESIDENT MROZ: Thank you.

The next speaker on the list is Arcadia Lee Papalski.

MS. PAPALSKI: Good afternoon. Thank you for the opportunity to comment on the New Jersey's Energy Master Plan. My name is Arcadia Lee, I'm a New Jersey resident and a student at the Bloustien School of Planning and Public Policy. And

25 I want to focus my testimony on strategies for

1 energy reduction and efficiency. I also want to
2 discuss how educational strategies can be
3 implemented by utility companies. And also want to
4 encourage utilities to incorporate more energy
5 efficiency into their portfolios to reduce emissions
6 from fossil fuels.
7 Regarding the EMP's updated notice in
8 emerging issues in 2011 about how New Jersey
9 suffered devastating damage from the impact of
10 Superstorm Sandy and other major storms and weather
11 events; I would suggest that the plan focus more on
12 public education by including climate change
13 updates, and local weather trends and our energy
14 bills. Such as areas that are prone to flooding,
15 change in the precipitation, humidity, temperature.
16 This way people can see just how greenhouse gases
17 are effecting local weather patterns. A study was
18 conducted in Europe using the National Survey data,
19 collected from 1,822 individuals across the U.K. in
20 2010 to examine the lengths between direct flooding
21 experience, perception of climate change, and
22 preparedness to reduce energy use.
23 The research showed that those who
24 that those saw reports of flooding expressed more

concern over climate change, saw climate changes

lessen in severity and felt more confident in their actions that will have an effect on climate change.

More importantly these perceptional differences also translate into a greater willingness to save energy and to mitigate change. Highlighting the lines between local weather events and climate change is therefore likely to be a useful strategy for increasing concern and action.

We should also improve New Jersey's energy infrastructure through readily available technology. Smart grids and electrical power grids that are more efficient and more resilient than current power grids. They focus not only on elimination of black and brownouts, but also in making the grid greener and more efficient and therefore less costly. Smart grid systems allow utilities the ability to control systems by routing power where people need it, when they need it.

Also another useful tool is smart meters which use multidirectional power, and information flow between the utility, the grid and the customer. This multi level communication gives the utility the ability to quickly identify out options and resolve other service problems quickly.

The implementation of smart metering systems and

energy management, are the form of basic steps to building a smarter grid. Smart meters give customers greater control of their energy consumption by allowing them to personalize their energy usage, monitor real time electricity prices. And adjust the consumption and behavior in order recognize significant savings on energy bills. Customers can shut down their appliances during peak periods or preprogram their appliances and devices to operate only a predetermined time frames. Similarly, electricity providers also benefit from increased smart meter systems.

Two key concepts here are energy efficiency and reliability. Additionally, the utilities have the ability to monitor distribution networks to allow for immediate detection of irregularity which leads to drastically reduced response time in addressing outages. Smart meters can help reduce both overall electricity use and peak demand use. Leading to lower emissions for fossil fuel plants that will not center to generate as much power with direct environmental benefits. Surely the benefits outweigh the costs of smart meter programs.

25 There would be one, more data. Two,

1 meters would be read remotely and eliminate the need
2 for meter readers to visit homes every month.
3 Customer privacy is increased and emissions are
4 reduced. Three job creation. While the meter
5 reader job will be eliminated, many other jobs would
6 be created to support the new infrastructure. These
7 jobs are included are related to labor required to
8 manufacture and install and maintain the smart
9 meters. The construction and maintenance of
10 communications infrastructure and the creation of
11 computer hardware and software. Again, this leads
12 to potential energy conservation and reduction of
13 emissions.
14 The infrastructure of the U.S.
15 electric power system still relies on 1960 and 70s
16 technology. The sector is second from the bottom in
17 major industries in terms of research and
18 development, spending a fraction of revenue. I want
19 to encourage heavier funding for research and
20 development of technology and distribution,
21 renewable energy sources and storage, improving New
22 Jersey's infrastructure, reliance on more energy
23 efficient technology, and finding more sustainable
24 business solutions will greatly improve the safety

25 and health concerns of New Jersey residents.

Energy efficiency, if done correctly can reduce energy usage and customer cost, but that means making sure that funding for energy efficiency programs makes its way to energy efficiency programs and that the money does not get streamlined into any other state program.

Thank you so much for your time and your consideration.

PRESIDENT MROZ: Thank you for your comments.

The next several commentators that are registered are Barb Blumenthal, James Pfeifer and William O'Hearn.

Ms. Blumenthal.

MS. BLUMENTHAL: Good afternoon. Can you hear me? Okay.

My name is Barbara Blumenthal. I'm a consultant for the New Jersey Conservation Foundation.

The future belongs to clean energy and considerable research supports that statement. Our written testimony will include three different research summaries citing dozens of new studies and analyses that tell a compelling story about our

25 energy users. I would like to use my time this

1 afternoon to make four key points.
2 Point one natural gas is less
3 attractive today than in 2011.
4 Point two, natural gas combined cycle
5 is no longer the cost-effective strategy for
6 reducing emissions in New Jersey.
7 Point three renewables improve grid
8 resiliency.
9 Number four, additional pipelines are
10 not the solution to the polar vortex constraints.
11 So back to point one; natural gas is
12 less attractive today than in 2011. Market forces
13 are driving down the cost of renewables. Analysis
14 of levelized cost of energy produced by Lazard in
15 2014 includes that utility scaled solar is cost
16 competitive with natural gas combined cycled in some
17 scenarios, even without subsidies. A consortium of
18 leading businesses such as Apple, Microsoft,
19 Verizon, GE, agree that solar will enjoy rapid
20 growth and that prices continue to plummet.
21 Risk is another factor when you are
22 thinking about investment in a new natural gas
23 combined cycles plan. You have to remember natural
24 gas is the most volatile commodity in the world. I

mean price volatility, not molecules. Schools the

price of solar is predictable. And the cost is almost entirely up front and the fuel is free.

The second point, natural gas combined cycles is no longer a cost-effective strategy for reduced emissions. It's a key question for ratepayers, the national association of state utility consumer advocates called NASUCA commissions report this year on best practices in complying with clean power plan. It states in its conclusion almost universally the clean power plants compliance scenarios have the most energy efficiency and the most renewables, with or without the clean power plant. State's that pursue these lowest cost resources will see smaller increases in electric system cost through 2030, than they would with any other investment strategy.

The third point, distributed renewables improve grid resiliency. I'm going to defer that. We'll have a research paper we will be submitting on that point.

The fourth, additional pipelines are not the solution to the polar vortex constraints. You probably remember during the polar vortex in January 2014 a number of gas power plants and PJM

were not able to obtain adequate deliveries of

natural gas.

We will be submitting new research by the Conservation Law Foundation and Skipping Stone that analyzes New England's pipeline system. Surprisingly, their analysis of actual flow data during the polar vortex shows that the pipeline system was never fully utilized. Never fully utilized to existing capacity.

Their report for New England concludes that additional pipeline capacity is not a cost-effective solution to capacity constraints that remain by the year 2030. Instead, natural gas storage and other reforms would produce a more cost0effective strategy to meet their gas needs in the New England region. This research cast new doubt on proposed gas pipelines in New Jersey that offer the polar vortex as a rational. Gas market reforms are needed to improve market efficiency, better price signals and incentivize a range of cost-effective solutions that do not depend on new pipeline capacity. Even FERC has acknowledged that the number of proposed pipelines in front of them today far exceeds what is needed.

The final point I'm going to leave

you with, the central point is that natural gas

combined cycle is no longer the answer, and new gas pipelines should be suspect. The Board of Public Utilities should take a hard look at proposed fossil fuel infrastructure. Particularly, the participation of regulated utilities in the construction of new pipelines.

Ratepayers should not be asked to pay for unnecessary infrastructure in any case, but particularly infrastructure that does great damage to our preserved open lands, our farmlands, our air, our drinking water and our communities.

Thank you for this opportunity to testify. We look forward to continuing our work on clean energy, and helping New Jersey reduce its reliance on fossil fuels, including natural gas and its infrastructure.

PRESIDENT MROZ: Thank you very much.

Our next speaker is James Pfeifer.

MR. PFEIFER: Good afternoon. I would like to address you on waste to energy as an inclusion in the Energy Master Plan. First of all I want to thank you guys for having this thing. And for the fact that you have an Energy Master Plan because there is a lot of states that don't. There

is a lot of going back and forth about solar versus

whatever. And the fact that there is a plan is great. It's always easier to modify a plan than to create one. If I understood correctly some of the goals of the Energy Master Plan are clean in state energy generation, I think that was number two. To capitalize on emerging technologies, number four. And to maintain support of renewable technologies, number five.

So I want you to consider including waste to energy as a class one renewable. And I'm not talking about incineration. There's new technologies coming that will gasify BTU latent waste to create a synthetic gas that can be used as fuel for generators. We will always have waste, there's no question about that. There's only two things to do with waste. You can burry it in a landfill, and most of New Jersey's landfills are pretty filled up, or you burn it. We are offering a third solution, that's clean as can be, and it takes care of the waste problem.

Tests have shown that the emissions from this gas used in standard combined heat and power-type engines will meet all of the EU emission standards which are more rigorous than ours. The

25 approach solves the two key issues that generates

1 clean energy and addresses the problem of waste in
2 this state. It's local, it's abundant, it's there
3 all the time, and we have to get rid of if.
4 All I ask is that you consider waste
5 to energy via gasification into your amendments to
6 the Energy Master Plan. Thank you.
7 PRESIDENT MROZ: Thank you.
8 Next speaker is William O'Hearn.
9 MR. O'HEARN: I'm in the same place.
10 Hi, my name's Bill O'Hearn. I'm from
11 Ringwood up in Passaic County. I am a clean energy
12 advocate. And over the past eight years, I've
13 worked for companies like Green Energy, Solar City
14 and I also worked for FEMA on disaster recovery from
15 Hurricane Irene and dealt with energy issues there.
16 The one issue that I think hasn't
17 been adequately touched on, and it's kind if the
18 elephant in the room; and it's that climate change
19 has gotten measurably worse and more visible in the
20 four years since 2011, the last time that I
21 testified on the Energy Master Plan. And so I feel
22 like the clean power plant that was just rolled out
23 August 3 by the president and the EPA, reflects
24 that's of urgency, and the fact that 2015 needs to

25 be a turning point both nationally, statewide and

1 worldwide.

2 So one of the things I would like to

3 recommend is that we go back to some of the goals

4 that were preached in the 2008 Energy Master Plan.

5 That has been touched on briefly by others. But it

6 needs to be restored to 30 percent renewable level

7 by 2020 versus the 22.5 by 2021, which is the

8 current plan. And secondly, New Jersey now has an

9 opportunity for a clean power plant, return to a

10 RGGI program, which has been touched on, and we've

11 moved away from it under the current governor. And

12 get back with the other northeastern states to get

13 back in that program. That has been very

14 successful. It's also being operated in California,

15 very successfully.

16 In addition to those comments I think

17 contrary to what we may have heard from some other

18 speakers, the Fishermen's Energy Project off of

19 Atlantic City should be supported aggressively. I

20 would point out that most of the world is getting a

21 tremendous amount of their power from offshore wind.

22 And the more that we install, the more we use it the

23 more it's going to scale and the price is going to

24 come down. So cost is really a false issue in terms

25 of that project.

1 Secondly, we also should shift away
2 and I'm going to -- this has been covered but the --
3 natural gas as a clean energy fuel. There's a
4 danger of stranded assets here. If we invest in
5 something that takes us into fossil fuels
6 commitments for 20 or 30 years or more, when we
7 should be moving and investing more aggressively in
8 things like mass transit and renewable energy.
9 And also, I wanted to recognize the
10 plans of discussions of micro-grids. I would also
11 ask that we support community solar. And also
12 aggressively focus on storage both at the utility
13 level and commercial and industrial and residential.
14 A couple other quick points, because
15 I know other speakers will get into this, but we'd
16 certainly like to see the clean energy program
17 streamlined so that our energy conservation and
18 efficiency dollars can go much further. We haven't
19 talked yet about land use, planning practices and
20 trying to minimize the auto miles traveled. New
21 Jersey is the most densely populated state int the
22 country, and dealing with long commutes and all the
23 cost that come from those for many years. And a
24 more aggressive support of the electric car industry

as well as recharging stations. And it's an

opportunity for the utilities for example to avoid what's been called the death spiral for utilities, and participate in renewable energy pretty actively. One last point is the reestablishment of PACE, homeowner solar financing based on property taxes that has been worked on. And we would like to see a commitment to PACE on all solar power in New Jersey by the same date, whatever that's determined to be.

Thanks for the opportunity. And we appreciate the comments that every one has made.

PRESIDENT MROZ: We have been going just over an hour and a half. I think to give us a quick break and the court reporter a break, we will take a break until just after quarter of the hour.

And we will continue with the next several speakers on the list. That will be; Jonathan Cloud, Paul Kaufman and Jeff Tittel. We will be back in say ten minutes. Thank you.

(Whereupon a brief recess was taken.)

PRESIDENT MROZ: Thank you very much. It is ten minutes to three, and we will reconvene this public hearing regarding New Jersey's Energy Master Plan update. We will continue with the preregistered speakers first.

The next three people will be

Jonathan Cloud of New Jersey PACE, Paul Kaufman of GreenFaith and Jeff Tittel from the Sierra Club.

So Mr. Cloud.

MR. CLOUD: Over here. Thank you.

First of all, thank you very much for the opportunity to speak. I want to talk about a program that is brand new, in fact has not yet been launched in New Jersey. But I think it is very important to the solution of the problems that we are talking about today. It's called Property Assessed Clean Energy. I want to first of all commend Commissioner Chivukula for being the person to introduce it in New Jersey back in 2012, when he was deputy speaker of the assembly.

So my colleagues and I have been working on this for about three years. And there is a new bill which just passed the legislature at end of June and we're waiting for the for governor to sign. We think it will help to reignite the clean energy, energy efficiency industry. And in particular the new bill focuses on resiliency, resilient construction, and adds the capacity to finance those kinds of projects in the wake of Hurricane Sandy.

25 So as we have heard before, the

1 lowest cost way of getting energy is actually not to
2 use it at all. But to be more efficient about it.
3 But the major obstacle to implementing new energy
4 efficiency measures really is the upfront cost.
5 When people realize how cost-effective it is to use
6 energy efficiency in place of generating and wasting
7 more energy, you would think that every business
8 person and every property owner would be rushing to
9 improve their properties, and make them more energy
10 efficient. Unfortunately, the payback on that kind
11 of investment takes place over a number of years.
12 And the big challenge for most property owners is
13 the lack of up front capital.
14 So that is what PACE addresses. It
15 is a financial innovation, innovative financing
16 mechanism, so it's not a new technology; it makes
17 use of all existing technologies in energy
18 efficiency, renewables. And in you go with
19 resiliency. And so I guess, what I'm really going
20 to be requesting at the end of a couple of minutes
21 is for the Board of Public Utilities to strongly
22 endorse the use of this program. It is a program
23 that involves no taxpayer money, no ratepayer money,
24 it's entirely paid for by the property owners

themselves or by the investors who are bringing the

capital into the state to help the property owners do it.

And there is a lot of excitement around the program. And we are very hopeful the governor will sign it within the next 30 or 40 days. And we think it will help fill the gaps left by cut backs and other forms of subsidies or incentives for clean energy. The realty is it does not use any incentives. It doesn't depend on SRECs, it doesn't depend on any of these things so much as it makes capital available at reasonable cost to property owners to do the right thing. Which is to begin to address the issues that are causing us so many problems today. And which broadly go under the title of climate change.

So from our perspective, this really is the next trillion dollar industry in America and around the world. And the important thing to recognize about this is that we need to be on the leading edge of that, if only, for economic reasons. But apart from the economic reasons, we know we're doing the right thing by the planet, by the state by our local communities in this. And the opportunity is here for people to take action themselves.

And if you are not familiar with this program, I urge you to learn more about it and speak to your local municipal government about it, because it is a municipally driven program, and an opportunity for everybody to take advantage of what this can offer. So we ask for your support.

PRESIDENT MROZ: Thank you for your comments.

Our next preregistered speaker is Paul Kaufman from GreenFaith.

Mr. Kaufman.

MR. KAUFMAN: Good afternoon. My name is Paul Kaufman. I'm director of advocacy for GreenFaith. A faith-based interfaith environmental organization, whose fundamental thesis is that environmental protection is a religious duty regardless of one's religious beliefs.

We work with religious institutions, including churches, synagogues, temples, mosques, seminaries, schools and religious sponsored tasks to teach their members how to act in an environmentally responsible way in how to be come leaders in environmental preservation.

One of our core principals is that we have a duties to protect the most vulnerable members

25 of our community from the impacts environmental

1 degradation. It is well recognized that the
2 greatest burden of pollution falls on those
3 communities, environmental justice communities which
4 have the least protection, politically, medically
5 and economically against the armful effect of
6 pollution, which they have not created.
7 A second fundamental principal of our
8 organization is that we are commanded by whatever
9 supreme being in which we believe to care for the
10 planet, because as is written in psalm 24; the earth
11 is God's and all the fullness thereof. Since we are
12 truly guests in God's house all of humanity is
13 mandated by sacred writing to care for and preserve
14 God's property.
15 In fulfilment of these principals,
16 GreenFaith has embarked on an energy services
17 program which has dramatically improved energy
18 efficiency among the organizations with whom we have
19 worked in the past several years. Our energy
20 services program is a well-designed six-month
21 process, which provides participants a full menu of
22 services to lower their energy use and protect the
23 environment. We have worked with 82 institutions
24 over the past two years, which include both

25 religious and other non-profits. Through the

1 program we provide training and energy conservation,
2 energy audits and retrofit, solar and competitive
3 energy procurement.
4 Regarding the proposed EMP, we would
5 like to share a number of serious concerns. The EMP
6 of 2011 offered many laudable overarching goals and
7 policy recommendations designed to reduce energy
8 consumption and cost, take advantage of advances in
9 technology and improve air and water quality in the
10 state. Unfortunately, many of these goals have not
11 been met. Indeed the goals have been modified in
12 the past few years to be less stringent and less
13 likely to meet the energy health and environmental
14 needs of New Jersey.
15 Instead of moving ahead with
16 increased investment in renewable energy sources,
17 notably solar and wind, the plan has cut back on
18 these investments, opting instead investing further
19 in fossil fuel related infrastructure. Our
20 withdrawal from the Regional Greenhouse Gas
21 initiative has cost the state both money and jobs.
22 Overall we do not feel that our political leaders
23 should be content with the progress that has been
24 made.

Here are some of most significant

concerns: The new Energy Master Plan does not acknowledge the importance or even the relevance of the State's Global Warming Response Act of 2006. This legislation mandated greenhouse gas emissions reduction within the state of 20 percent by 2020 and 80 percent by 2050. It is vital that the new EMP reaffirm these goals and demonstrate how the plan will move us towards accomplishing them.

The 2008 EMP set a goal of 30 percent of our energy to which from clean renewable sources by 2020. This goal was revised downward by Governor Christie to provide 22.5 percent, rather than 30 percent. We strongly oppose any such rolling back of this key goal. The new EMP strongly endorses the expansion of expansion of fossil fuel infrastructure across the state, including new pipelines and gas-fueled power plants. We believe that investment in new fossil fuel infrastructure is foolhardy and morally indefensible. Such investments essentially lock in a fossil fuel-powered future at precisely the time we need to be moving in the opposite direction. We believe that the money would be better spent in investing in renewable energy sources and efficiency and conservation initiatives.

New Jersey's position as a leader in solar energy used to be second in the country. In recent years we have lost that position as other states have moved forward in expanding their solar energy industry. We have lost 45 percent of solar energy jobs in recent years. We believe that the new EMP should take bold steps to reestablish New Jersey as one of the top solar markets in the world and not be content with sliding towards the middle of the pack.

We strongly oppose the consistent raiding of the Clean Energy Fund and the use of monies from that fund for purposes not intended when the fund was established. Rather than expanding our investment in fossil fuels, we should focus on energy efficiency, clean energy, public mass transportation and ways to provide the citizens of our environmental justice community with the clean air which they deserve.

In many major religions, preservation of life is the duty of both individuals and community leaders. Life is more than simply existence. We are all entitled to a decent quality of life. We have the obligation to provide clean, pure air, water and land to all of those with whom

25 we share this planet, and enlighten the Energy

1 Master Plan to help us to achieve this goal.
2 Unfortunately the proposed EMP would really
3 reiterate the uninspired energy policies of the past
4 and does not demonstrate the creativity and the
5 imagination needed to properly meet our
6 environmental public health and energy needs.
7 Thank you for this opportunity to
8 testify.
9 PRESIDENT MROZ: Thank you for being
10 here.
11 Next speaker on the preregistered
12 list is Jeff Tittle from the Sierra Club.
13 MR. TITTLE: Hi. I will stand, it
14 makes it a little easier to speak. I want to thank
15 you for the opportunity to speak. But I would also
16 say that this is such an important issue that we
17 should have had these hearings, not in the middle of
18 summer when a lot of people are on vacation, and not
19 in the middle of the day, when people have to be at
20 work. Because I think this is too important for the
21 people of this state, and we need to have an
22 opportunity for more public input.
23 I want to start off and say that
24 between to 2011 plan and today, the world has

changed. It has changed in so many different ways,

from how we look at ourselves, how we look at society, things that were unheard of five, six year ago are commonplace today. But the biggest change that we've seen has been the devastation through climate impact in here in New Jersey.

The 2011 Master Plan, while it has some positive goals in it did not address climate change and the impacts and the way that it should have been and the way we must now do. Because it's become an emerging crisis for this state and for the globe. We also in the major changes since then have seen price of renewable energy drop dramatically. We see efficiency of scale and efficiency of energy products go up. And we see new technology coming into the market, whether it's storage or micro-grid. We see so much happening that we can move this state and this country forward and at the same time we help guard our state against future climate impact. That's really what this Energy Master Plan has to be about. It's about looking forward, but 30, 40, 50 years out, because the world that we know today may not be there for future generations.

We see the impacts of dirty air in the state where, whether you live in Newark or

25 Trenton or Camden; and the Energy Master Plan can do

1 a lot to alleviate that. We should not be building
2 a fossil fuel plant in places like Newark. We
3 should not be expanding our incinerators in places
4 like Newark or a new incinerator in Paterson. We
5 need to be retiring the dirty coal plants that are
6 left. Even though there's been investment to make
7 them cleaner. They're still dirty, they're still in
8 communities that are greatly impacted by pollution
9 and we can do a lot better.
10 We can move forward and replace those
11 dirty energy sources with not only renewable energy
12 but reduced overall energy demand by energy
13 efficiency. One of the things I would say for this
14 plan going forward is that the previous plan, let's
15 say it's full of hot air, put it on the shelf, let's
16 rewrite it and start over again. And start looking
17 long-term. Not only should we go back to the goal
18 of 30 percent renewable by 2020, but we should go
19 beyond that. We should be at least 80 percent
20 renewable by the 2050. Maybe sooner. We should be
21 looking at reducing energy use as the original
22 master plan in '08 called for 20 percent. We can
23 easily reach 30 percent by 2030.
24 We have the technology, we have the

25 public support, we need to get the political will

1 and that is really critical for us to move forward
2 when it comes to clean energy.
3 Wind and solar have become so
4 cost-effective, that the cheapest power in the
5 country right now is wind coming out of the Midwest.
6 It's almost half the cost of natural gas.
7 Solar has been dropping. There are
8 solar facilities that are going in the west coast
9 that are cheaper than natural gas facilities. It's
10 getting better and cheaper. Once you put the
11 upfront capital costs in, your operation and
12 maintenance go down.
13 And the problem with natural gas or
14 other fuel sources, even nuclear, is you keep having
15 to buy fuel, you spend a lot on operation and
16 maintenance. You don't do that with solar. All you
17 needs is a squeegee a couple times a year. And then
18 you don't have to worry about any kind of gas lines
19 blowing up or power plants having problems or even
20 grass hitting a nuclear reactor, closing it for a
21 couple days at a time, because it doesn't have
22 cooling power.
23 That's another issues, because if you
24 look for it in the Energy Master Plan, you should

look at its relationship with water because another

problem in the state is that we are robbing our rivers of a lot of clean water because we have plants that are out there that do not have closed loop systems. Whether it's the B.L. England facility that should close, or the other nuclear power plants, the Salem nuclear plants or the Hudson and Mercer plants, they are actually robbing the state of vitality, killing fish. And also causing major depleted use of our water supply in rivers, which this state does not have an infinite amount of.

That's why I'm saying we need to look forward and not backwards. We need to understand that New Jersey, which at one time had 10,000 energy jobs just a few years ago is down to 5,500. We can grow that again. We need to expand the RPS. We need to make sure that we do not have a crash of the solar market in 2018 by expanding the RPS. We need to be sure and maybe, we need to dedicate it to stop the next governor from raiding it, but $1.1 billion out of the Clean Energy Fund has been taken. That's a lot of money that could have created a lot of jobs and helped a lot of people save a lot of money on their energy bills.

However, we can also go forward with

the Energy Efficiency Resource Standard. That would be another way of getting there. We can design a system that we can give carrots for the more energy we save instead of just giving carrots to people who waste energy, give them subsidies. We can move the state forward by updating building codes. Which goes back to 2007 and are 30 percent less efficient than current codes. We can expand on Energy Star to make it even better than it currently it is. And to require it as part of not only new building in New Jersey, but also when we rebuild in the state.

We can tie it all together and we can have a future that is much brighter with much cleaner air, making our state real resilient, not just putting money into a sewer plant that might be flooded in the next storm, with the solar panels bobbing in the waves. We must be able to move it state forward economically. That's the critical part, that the new technology and the new industries and new jobs are waiting for the people of New Jersey. But we have to look forward, we have to expand the Energy Master Plan to a vision of the 21st century and beyond. That's the best way we can move the state forward.

And we have to think about the cost analysis of it. The cost of not doing it is going to be devastating. As we see our barrier islands, going under water, we see places like the Meadowlands filling up with water and one day when the Giants are playing the Dolphins, there'll be real dolphins. You know I use that joke a lot. But it's still true. We have vital infrastructure in the state in low-lying areas. We cannot afford to lose Newark Airport or Port Newark, economically. And we cannot keep paying the billions of dollars a year that we're paying in damages from storms. New Jersey is number two in the nation in receiving FEMA money. We should be number one in receiving money for offshore wind.

That's why we need to move forward. That's why this Energy Master Plan is so important because it is the planning document really for the future of the state. Thank you.

PRESIDENT MROZ: Thank you, Mr. Tittel.

The next three speakers are the last on our preregistered list, and then there are others so, but the next three from the registered list will be Jim Meyer, Matt Smith and Doug O'Malley.

Mr. Meyer from Riker Danzig.

MR. MEYER: No. I did not plan on speaking. I am just here to watch.

PRESIDENT MROZ: Thank you.

Matt Smith from Food and Water Watch. Mr. Smith.

All right. Next on the list is Doug O'Malley from Environment New Jersey.

MR. O'MALLEY: Thank you, Mr. President and thank you for the attendance of other Commissioners, Commissioner Chivukula and Commissioner Solomon.

I wanted to start off by saying I am the director of Environment New Jersey. We represent 20,000 dues-paying citizen members across this state. And I wanted to echo the comments that we've heard from others, including the ratepayer advocate of the importance and the need to have additional comments, not just a draft plan, but also on the final plan. And I also want to say we are very happy, I'm happy to follow around the BPU over the next week, but the need for more public comments and a public comment period that lasts more than just August, I think is critical; considering the issues that we are considering on this issue. So

obviously these hearings in August in are good, but

hearings in September would be even better.

Let me begin with my, kind of official comments, by noting I will submit written comments. But quite frankly, this, Governor Christie's Energy Master Plan needs a complete overhaul, not just small tweaks. And the Energy Master Plan should be reflecting our climate crisis and that attention needs to be given in the plan to implement the Global Warming Response Act. This plan failed to do that because it's only tweaking the plan from 2011.

I think it's also critical to note that for the Board that the reason to reopen this process was because of the importance that resiliency projects including those referenced in energy resiliency banks reflected in the current plan. Obviously, as was referenced, the importance of this project. We're you know, we're identifying by the disasters of Hurricane Irene and Hurricane Sandy, that the state faced. I think it's incredibly important if we are going to be talking about resiliency, that we also talk about essentially an applications strategy for dealing with climate change that we deal with the problem at

25 hand, which is the mitigation strategy for our

1 carbon emissions.
2 On that note, this Energy Master Plan
3 is still a love note to our fossil fuel industry.
4 The initial plan in 2011 and this proposed plan
5 still will fast track new power plants and new
6 pipelines throughout the state. And the clean
7 energy projects got short thrift in the initial 2011
8 plan. Four years later we have seen no progress
9 whatsoever on offshore wind.
10 The BPU in the 2011 plan said that
11 there were 3,000 megawatts in development, 1,100
12 megawatts was quite achievable as referenced in the
13 Offshore Winds Economic Development map. We are
14 going have a five-year anniversary in about eight
15 days. You know, that's obviously is a huge fall
16 back of -- or a huge failure over the course of the
17 last four years.
18 I think it's also critical to note
19 that we've seen too little progress in energy
20 efficiency. We have seen a lot of our testifiers
21 speak to that. I think it's important to note that
22 the initial plan, there was a goal of 1,500
23 megawatts from combined heat and power. Obviously,
24 we are no where near that. And I will come back on

energy efficiency as well.

I think it's incredibly important to know, that we can't seawall our way out of climate crisis. As I mentioned before, all the resiliency projects in the state aren't going to do anything to reduce our carbon emissions. I want to reference the 2007 global warming response act. It was visionary. It made New Jersey a leader. But we have seen a failure under this administration to implement it. Not only the reduction to 22.5 percent by 2020, but the more important urgent reduction of 80 percent reduction in carbon emissions by 2050. This is not just kind of a failure that we can kind of put on the shelf somewhere and ignore.

I think it's especially important to note that as this hearing is going on, there is an active protest that we have heard reference to, by the Ironbound Community Corporation. And members of the Ironbound should be outraged, because Newark and our urban centers, especially the Ironbound is an environmental justice hazard area. It's hazardous to your health to live in the Ironbound. Children in the Ironbound have higher asthma rates than the statewide average.

25 And across the state you see asthma

1 as being an epidemic. More than 600,000 adults in
2 New Jersey suffer from asthma, including our
3 Governor, and more on 150,000 children suffer from
4 asthma. You know, thankfully, my daughter does not
5 suffer from asthma, but for any parent who has had
6 do deal with a child having an asthma attack, it
7 truly is a terrifying experience.
8 And the fact that we are having a
9 hearing here in Newark, and we are literally, you
10 know, miles away from the Ironbound. And also, you
11 know, at the same time not referencing the
12 importance of reducing carbon and improving our air
13 pollution and reducing the emissions that cause
14 asthma needs to be critical part of this plan.
15 On the other side of the fence, I
16 think it's without question, notable that
17 Fishermen's Energy is company that moved, given an
18 option for New Jersey to have a test pilot project
19 for offshore wind. We have been in the
20 extraordinary situation, where the Bureau of Energy
21 Management has continually asked BPU and State
22 Senate, President, when is BPU going to act on the
23 Offshore Wind Development Act, when are those
24 regulations coming out?

Right now it seems like the Christie administration is just point out the costs. It's been five years. BOEM is now going to potentially take the extraordinary measure of doing an auction for offshore wind. And in order to feel -- not knowing where the BPU is. Those rules -- that notice came out in July of 2014. It's been over a year. This is clearly an item where the Energy Master Plan falls short, the BPU falls short. And certainly Governor Christie signing a law into place and not having the administration follow through also falls short.

I want to note is some testimony we have heard on the economics of renewables and the economics of energy. I want to reference -- it's something I've brought up the research at the Rocky Mountain Institute and their really ground-breaking research of the economics of load defection. And looking at groups in multiple states, around the country; Hawaii which is much different than New Jersey is already there. But they looked at Kentucky, Texas, as well California and New York. Specifically the Westchester area which is very similar to New Jersey. That showed grid parodies within the next decade on battery technology

25 combined with solar. That is going to change our

1 energy markets. It's going to be a revolution.
2 This Energy Master Plan needs to
3 reflect the growing group parody we're going to see
4 from clean energy technology, like solar, as well as
5 the potential for battery storage. Not just the
6 potential but the implementation. I know there is a
7 thought of having BPU programs focused on energy
8 storage. Those need to be expanded in this Energy
9 Master Plan.
10 And then for that matter, when we're
11 talking about you know leadership roles; looking at
12 the action of New York State and the actions of
13 Governor Cuomo and the response to Hurricane Sandy
14 with the rollout of the process Reforming the Energy
15 Vision process, the REV process, the process of you
16 know increasing energy efficiency projects through
17 NYSERDA and you know and, the participation of New
18 York State in the Regional Greenhouse Gas
19 Initiative. Those are the leadership measures New
20 York has taken. New Jersey should be following and
21 it should be a competition. Instead we are allowing
22 New York to move ahead on reacting to Sandy. And
23 quite frankly New Jersey is not taking those actions
24 on mitigation levels and responding to our climate

crisis.

We have already heard reference to the Mark Jacobson study, obviously of critical importance. I want to talk a little on energy efficiency. And to echo the comments that we have heard from others, including the ratepayer advocate, focusing on the need for building code standards, which are give years delayed, appliance standards which are ten years delayed. And really in my mind, the elephant in the room and that's the more than a billion dollars that have been raided out of the societal benefits charge out of the Clean Energy Fund, funded by ratepayers. This SBC charge is supposed to go to energy efficiency projects. Instead, the administration year after year the budget is sign off on allowing the fund to be siphoned lower for the state utility bills. Most recently, NJ Transit. Trust me I'm a strong NJ Transit ally. That money was not intended for NJ Transit. And the Board needs to not treat the SBC money as a piggy bank that will likely be raided by the legislature. Instead it needs to treat it as money that should be spent.

And we should be looking at the energy efficiency leaders in Maryland and

25 Massachusetts, as well the process that New York has

1 been leading through NYSERDA as models. This
2 current Energy Master Plan fails to acknowledge
3 that. We have a long way to we have long way to go.
4 I just want to rap up my testimony,
5 because there is a lot to cover and others to speak.
6 But I do want to reference the groundbreaking work
7 of the Obama administration, with clean power plant.
8 That is, you know, that is obviously the climate
9 action we need to get finally a global agreement to
10 act on climate, this winter and late fall, in Paris.
11 But more importantly the president is listening to
12 the scientists. He is listening to the scientists.
13 Even folks like Jim Hanson who not only say we are
14 going to see rising sea levels, we have the
15 potential in see sea levels rise by 10 feet over
16 next 50 years. That might sound incredibly
17 preposterous, but I don't think anyone in this room
18 has been studying climate as long as Mr. Hanson has.
19 I think it's critical that when we
20 look at New Jersey's participation under the law of
21 the clean power plants that New Jersey does not
22 punt, New Jersey does not wait for 2018 for a new
23 administration; but follow reductions required by
24 the clean power plan to implement a state plan that

moves forward on efficiency and clean energy to meet

those standards. If obviously the administration fails to do that, the feds will step in.

Thank you so much.

PRESIDENT MROZ: Thank you.

That concludes the list of those who preregistered. We now will move to list of those who have come to this hearing today, registered and indicated they want to speak. And then I will go through those individuals and then return to anyone else that has comments.

First on the list now who has indicated they want to speak from registering today is Dave Pringle.

MR. PRINGLE: Thank you, Mr. President. My name is David Pringle. I am campaign director in New Jersey for Clean Water Action, a national organization of million members and we have 150,000 here in New Jersey. Especially two hours into a hearing like this its very easy to forget why we are here or why we should be here, whether bureaucrats, engineers, politicians, advocates it's easy to get caught up in the wonkdom and frankly be pretty be apathetic. And I think it's important to keep in mind why we should be here. Folks are

25 struggling to pay their bills. People are dying,

1 and getting sick because of the policies that allow
2 places like the Hudson and Mercer generating
3 stations to continue, B.L. England and Hess. Folks
4 are worried, they're stressed, they're vulnerable
5 physically, financially, emotionally. The world is
6 drastically changing because of more Sandys and
7 Katrinas, because of the cumulative effects of
8 greenhouse gas emissions.
9 While we fully recognize we are
10 thought omnipotent in this room and this Board to
11 address all of these problems; shame on us if we
12 don't, and on you, if you don't do, more much more
13 aggressively, starting now.
14 Even the pentagon and insurance
15 companies are far ahead of the BPU, when it comes to
16 dealing with climate crisis. And this Energy Master
17 Plan is the best vehicle you have to deal with it.
18 So I would like to get on with my
19 prepared comments but just hearing this last two
20 hours, I hope folks keep that in mind. And I also
21 recognize there is diversity within the Board.
22 Obviously, there are five commissioners and they
23 don't think alike, identically on everything. I
24 hope, I think too often the Board speaks with one

25 voice, when I know there is more than one voice.

1 The Supreme Court is certainly capable of issuing
2 descents. And I would like to see there be some
3 minority reports from Board unless -- if you're
4 putting your name on the document, then the five
5 commissioners, including the democratic appointees
6 signed off on the 2011 plan that said we should have
7 less renewables and less efficiency. So if you want
8 your name attached to that, go for it. If not, I
9 hope this plan will be different than the last one I
10 fully recognize the record of the Christie
11 administration.
12 And I'm not holding my breath, but
13 it's time for you folks to stand up and be counted.
14 You can change your course, you can be in the
15 minority and help get ready for a better day,
16 because a better day will be coming as long as the
17 planet is spinning.
18 So I urge the Board to stop the
19 insanity. What is the insanity you might ask? The
20 new dirty dangerous fossil fuel projects that are
21 being proposed in every corner of New Jersey,
22 increasingly undermining our economy, our
23 environment, our property values and our health.
24 How can we stop this insanity? How

25 about quickly transitioning to clean renewable and

1 more efficiency energy, using existing technology
2 that will require more jobs and less cost, and
3 lessen our continued reliance on dirty air fossil
4 fuels.
5 We have oil bomb trains rolling
6 through our neighborhoods. We have gas pipelines up
7 the wazoo in the Pinelands, South Jersey Gas, New
8 Jersey Gas, we have the Hess plant here in Newark,
9 have the Pilgrim Oil pipeline being proposed, we
10 have the Penn East, we have offshore liquid natural
11 gas terminals being proposed. Every corner of New
12 Jersey is affected and the alternatives to these
13 proposals create more jobs, a less cost. Forget
14 about the environmental benefits.
15 It was referred to earlier in the
16 testimony the Solutions Project, both PHDs and
17 Cornell and Stanford and the like have developed
18 state-specific plans on how we can be 100 per carbon
19 free by 2050 using existing technology that exists
20 today, if we are willing to apply the political
21 will. Many state legislators are already on board.
22 I am aware of at least ten, including democrats and
23 republicans that have signed no to an aggressive
24 plan to do at least 80 percent renewable by 2050.

25 So there is some political support

1 out there. You might ask, well we are meeting our
2 2020 goals or whatever and if folks want to continue
3 counting on recession to meet greenhouse gas
4 emission goals, then mozel tov to you. But I would
5 I would like to see economy grow and deal with the
6 climate crisis at the same time. And we are not
7 even close. We're not on -- we might be on track
8 for 2020, but we're not on track for 2050.
9 So I would like to focus briefly on
10 couple key points of the policy we have heard a lot
11 from -- I fully support the testimony of the Sierra
12 Club and Environment New Jersey. You don't need me
13 to tell you the details on how to get there. You
14 know how to get there. You have the professionals
15 to get you there. It's a matter of whether you want
16 get there or not.
17 We can get to 30 percent increase in
18 efficiency by 2030. We be get to 100 percent fossil
19 free by 2050, especially if we hold everybody to the
20 same playing field. You know, we are always having
21 this conversation; shame on you for holding solar to
22 a different standard than everybody else. I quote:
23 It's time for solar to operate without subsidy.
24 Well if we applied that standard to nuclear energy,

25 we wouldn't have any because the Price Anderson Act,

1 the nuclear industry, which allows the tax payers to
2 keep nuclear insured, there would be no nuclear
3 energy in New Jersey if taxpayers weren't footing
4 the bill. We are all paying the cost for coal in
5 our lungs. That's a massive subsidy. So let's stop
6 subsidizing all of that. Or let's get solar on a
7 fair playing field with everything else.
8 And shame on the BPU for not doing
9 what they need to be doing in offshore wind.
10 Whether it be Fishermen's Energy, because of a
11 political agenda BPU is still saying no and that has
12 nothing to do with the Onshore Wind Act where you
13 should be much be further along than you are. You
14 still haven't proposed the rules.
15 If you did these things, New Jersey
16 would be a hotbed for manufacturing, research and
17 development, installation maintenance of green
18 technology and sustainable jobs. That's the way to
19 be going, not a continued reliance on fossil fuels.
20 As it has been previously been
21 stated, natural gas is not clean. Yes, when you
22 burn it, it's less dirty than a kernel of coal, but
23 when you look at the whole lifecycle cost, it's not
24 clean and it's not cleaner than coal. People are

dying from gas plants. Not just coal plants.

And burning garbage is burning garbage. Plasma gasification is garbage incineration. The best solution is to produce less trash if the first place.

In 2009 -- our governor keeps saying he's a man of his word. I wish folks would reflect more on his words, because in 2009, he praised John Corzine, his predecessor for signing the global warming response act in 2007 and for adopting the 2008 Energy Master Plan and criticized Corzine for not doing more to implement those goals. Especially that 80 percent by 2050 and 30 percent by 2020. And he committed to doing more to implement those goals, than Corzine did. Not only has he not done that, we all know he has done exactly the opposite. But the BPU can change its ways and the governors ways, it's not too late. Let's see if the governor is a man of his word.

You have the opportunity before you, and whether you are in the minority, the BPU today or the majority, you can speak with one voice and cover each other's backs. Or do the right thing and let the chips fall where they may.

Thank you.

PRESIDENT MROZ: Thank for your comments. The next person on the list to speak is Lyle Rawlings from MSEIA.

MR. RAWLINGS: Thank you, President Mroz, and Commissioners Soloman and Chivukula for holding this hearing. And President Mroz it seems like there were some surprises and excitement at this hearing. I think former President Soloman can tell you that in 2011 at the hearings, there was much more of that and much more excitement. I think Jeff and Doug are right that that does reflect the fact that the hearings were held in the late afternoon and evening and they went on over a couple months actually, not compressed into a week. And in fact President Solomon expressed at the time surprise at the members of ordinary citizens who throng into those hallways, standing room only and at the level of passion that they had expressed at those hearings. And, in fact, added two additional hearings to the roster. I think it would be a good idea to consider adding more hearings in this case, and have them later so that people with full-time jobs can attend. Because at that point, in 2011 there were a lot of policy people like us testifying, but large numbers of ordinaries citizens

25 came out and really wished to be heard.

1 But on to my prepared remarks. My
2 name again is Lyle Rawlings. I'm president of the
3 MidAtlantic Solar Energy Industries Association,
4 representing solar energy companies in New Jersey,
5 Pennsylvania and Delaware that have been around
6 since 1997.
7 In 2011 when the current Energy
8 Master Plan was done, between then and now, 2015
9 there is only four years. We humans are not
10 hardwired to expect the world to change much in such
11 a short period of time, nor are we hardwired to
12 change our world view that rapidly. But the world
13 has changed rapidly, in just these four years.
14 There has been technological change: The cost of
15 which my company buys a solar panel has dropped by
16 more than 80 percent in the last five years. The
17 cost of wind power has dropped substantially. The
18 cost of offshore wind has dropped a lot. Now, we
19 see the cost of battery technology dropping very
20 rapidly. And furthermore the technology that can
21 tie batteries and photovoltaic systems together has
22 dropped in half in just a year's time.
23 So we are dealing with a period of
24 rapid technologic and cost change. There is also

been rapid change in outlook. Europe leading the

way. There is new perception on the near term effects of climate change. It's not something we worry about 50 years from now. But the current changes we see in draughts and more frequent storms like Hurricane Sandy. And we're seeing dangerous and irreversible tipping points already happening, such as the west Antarctic ice sheet. That has caused rapid change in public policy. And again Europe has led the way with several countries adopting 80 percent by 2050 goals, up to 100 percent by 2050 goals.

For instance Germany and the Scandinavian countries are actually years ahead of that schedule and even with that very rapid change in technology, they are setting new records for reliability in their electric systems. Already here in the U.S. we're seeing changes industry. Last year in 2014 renewables accounted for more than half of all new electric generation capacity in this country. In fact 53 percent of all new electric generation capacity last year were wind and solar.

Now recognizing these trends and being able to react intelligently is very important. European utility companies did not recognize the

trend, starting ten years ago and the top 20

European utility companies lost half a trillion dollars in market capitalization because of failure to react. As an article in the Economist recently said. Now, this is because renewable energy is making some of investments they made in natural gas plants, nuclear plants and other fossil fuel plants is unneeded because of the rapid advancement of renewable energy. These were stranded investments, driven down the cost of wholesale energy in the middle of the day so far that even the newest and most efficient natural gas plant cannot afford to operate during the day. It caused economic disruption for those 20 utilities, because they weren't able to make those investments, recognizing what the future was going to bring, and how determined the European people were to bring this change about. And not being able to move their business model like they're talking about in New York through the REV process. So we need to recognize the trends and move accordingly.

New Jersey has not moved to achieve had goals of 2011. Solar energy, we have dropped the goals overall for solar energy. And furthermore we've changed the legislative curve for solar energy

25 from an upsloping curve which it was until 2012, to

1 a down sloping curve. So we're now legislatively
2 literally phasing out solar energy at the rate which
3 it's built in New Jersey to the point where in
4 another 10 years we'll have completely phased out
5 the construction of solar energy.
6 So we were number two in 2012 in the
7 country. We are now Number 7. And we will continue
8 to drop with the current trend. We have stopped
9 offshore wind development, and we have fulfilled our
10 RPS almost entirely by out of state renewables. So
11 we are not getting the economic benefits of the jobs
12 that we could with what we are paying already for
13 renewable energy.
14 But even more importantly, it must be
15 recognized that the goals that we set in 2011 are
16 out of date and out of step with the rest of the
17 world and even out of step with other U.S. states.
18 Hawaii has now set an unquestioned lead by adopting
19 legislation that can require 100 percent renewable
20 electricity by the year 2045. California next month
21 is highly likely to pass a bill that would require
22 40 percent renewable energy by 2030. Which is ahead
23 of the most ambitious schedules being considered in
24 New Jersey.

25 So the new Energy Master Plan should

1 not just be an update, it needs to be an overhaul.
2 It should embrace longer term goals than just 2020
3 or 2022. That's important because if we do embrace
4 transition to renewable energy, it requires a great
5 deal of thinking of how the infrastructure needs to
6 react. And how the utility business models have to
7 react and how public policy has to react. So we
8 can't have the right infrastructure processes, we
9 can't have right policies, the right utility
10 business models, if we don't know what the
11 destination is. And that's why other states and
12 other countries are adopting 2050 goals. It's a
13 matter of knowing the destination, because if you
14 don't know the destination, you can't move in the
15 right direction. So I believe the Energy Master
16 Plan should start thinking longer term.
17 Now we also have to talk about the
18 cost. If we were to move to a true renewable energy
19 future, what about cost? First of all, a little
20 context to that. President Mroz, you correctly
21 stated that New Jersey has fallen in terms of the
22 ranking among U.S. states for its rates. But as I
23 have said before at hearings, there is no such thing
24 as a ratepayer. People don't pay rates, they pay

bills. If New Jersey is 10th in terms of rates

among states in the nation. When you look at the energy bills, fortunately we are also already more energy efficient than most other states. So in terms of the bills that are paid by New Jersey bill payers, we rank 26th in the nation. Furthermore, New Jerseyans are wealthier than other states, we have higher income. So when you express the bills that New Jerseyans pay as percentage of income, we rank 42nd in the nation. So we are well-positioned in terms of our costs. We are well positioned in terms of expertise, our infrastructure and our recent history to be a leader again in renewable energy, even though we have given up that lead recently.

Now, further about cost if you compare a solar plant with a coal plant and say what is the cost at which it delivers power to electric grid. The solar plant is going to be more expensive than the coal plant. But that's only because not all of the costs are producing that power are monetized by the electric market structure. The coal plant emits a lot of regional pollutants. You have heard from Doug about asthma, the PM 10 particulates, the mercury, the NOX and the sulfur

25 are important regional pollutants that have monetary

1 harm in our region. Furthermore, of course the
2 greenhouse gas emissions have a worldwide cost that
3 is imposed. Those costs are socialized on the backs
4 of the public. So the public supports those costs
5 and, therefore, that pollution is a subsidy that is
6 delivered to the coal plant.
7 In order to properly account for all
8 the costs, we need to be able to first of all
9 understand what they are. And more and more studies
10 are showing how where can monetize those costs, and
11 pretty accurately assess what they are. When you
12 take all of those costs into account and all the
13 benefits of solar, we also need to monetize those
14 costs and be able to deliver them to the solar
15 project.
16 Now, that is not a subsidy. That is
17 a payments for value rendered. If we properly
18 account for those costs, we are finding out that
19 solar is more cost effective that coal, it's more
20 cost effective than natural gas. And not just in
21 the southwest, but in here New Jersey MSEIA has done
22 a study that has shown that very clearly. And since
23 that time, other studies have shown a greater value
24 from solar, such as the one in Maine, which just

25 assessed the value solar of .33 cents per kilowatt

1 hour in terms of the total value delivered.
2 So we need to be able to monetize
3 those real costs that cannot be monetized by the
4 market. We need to properly assess them, and assess
5 all of them, and deliver them to the solar project
6 and the offshore wind projects. And we do that now
7 through SRECS.
8 Another thing we've got to do is we
9 have to deliver those, that remuneration for value
10 delivered far more efficiently than we do now. We
11 are delivering incentives to solar at five times the
12 cost per kilowatt hour, that just across the river
13 here in New York, they are delivering it to their
14 solar projects. So we must do this far more
15 efficiently than we're doing. And if we do do that
16 more efficiently, the total delivered by solar is in
17 excess of the cost. And so we can afford to do much
18 more of it, and achieve those 80 percent by 2050
19 goals that the other folks here have talked about.
20 Thank you.
21 PRESIDENT MROZ: Thank you for your
22 comments.
23 The next individual who is registered
24 and indicated that they wanted to speak is Joseph

Della Fave. He left, all right.

Next person is Adam Koranyi, if I'm saying that right.

MR. KORANYI: Yes. I'm not presenting on behalf of anybody. I am a professor at City University of New York. I have been there for the last 30 years. And I have to start by apologizing for my accent. I was thinking about whether it's worth starting to talk at all for a foreign sounding person, but I thought I would speak. But I am a naturalized citizen, I have been for 50 years. And as a professor of mathematics, as a professor, I claim that I can tell good science from bad science. Not only mathematics, but in general. And that is the reason why I wanted to say something rather of a general nature, because the question of climate science is not as clear as it sounds. When you are listening to people speaking here, almost everybody seems to agree that this is an important issue. But out in the larger world that is not. So I mean there is a lot of doubt thrown upon how serious it is and how dangerous it is. That's why I wanted to talk, without any personal interest one way or another.

But I have spent many years seriously

25 looking into this question, and I want to say and

1 convince everybody that it is really very serious,
2 it's not just whether a polar bear is going to
3 disappear or whether there will be more big storms.
4 It's really about the life of billions, and not only
5 in Africa, but very soon even in this on this
6 continent. So this is what I want to say.
7 And I also want to say it's not very
8 hard to check this. I mean there are very serious
9 sources the IBCC, the international panel, I can
10 recommend very strongly a report commissioned by the
11 panel back one or two years ago, which goes in to
12 some detail, and comes to the conclusions I am
13 mentioning.
14 And also I want to point out that
15 opposed to what many people think it's not very hard
16 to understand the basic science. There are many
17 details, there are lots of unknowns, there are
18 effects going one way, and the other. But the basic
19 facts of what's really happening is quite simple. I
20 would say really, anybody can understand it with a
21 little effort.
22 Therefore, I don't have too much to
23 say in details. There is this question about
24 natural gas being cleaner, and there again there are

these great controversies about what, how much gas

gets lost, how much goes away, and measuring it. There's no complete agreement but I looked into that too, and it seems to me, it really looks like a lot of it gets out into the atmosphere, and in the end it is not cleaner than oil or coal.

Now, for renewable energy, we should be talking about solar and wind. I would say also it's a our moral duty to think about it. I mean it's -- if everything worked for if the worst case scenario, works out in every particular situation and things go on the general policy, stay what they are for the next 10 or 20 years, and they -- disappearance of man from the planet is a possibility. It's a real possibility. And once you start talking about host and prosperity, well, how do you measure it because of that.

So at any rate, this is what I wanted to say. And I agree with those people here who say that New Jersey's plan should be rewritten in view of the long range to include perhaps 2050, include long range. And the costs are calculated, they should be calculated also on the long range basis. Thank you.

PRESIDENT MROZ: Thank you for your

25 comments.

1 The next person indicated they wanted
2 to speak is Brian Thomas.
3 MR. THOMPSON: Brian Thompson, I have
4 sloppy handwriting.
5 Yes, well, today -- I'm here on my
6 own recognizance, but I'm an analyst with E9
7 Insight. We are a company that provides a clean
8 tech company, a clean energy company with
9 information about public utility commissions and
10 sometimes helps them to work more closely with
11 public utilities as well.
12 I didn't prepare any comments, but
13 nobody addressed this yet, so I thought it was worth
14 mentioning. This morning, when I woke up, I got a
15 remarkable text message, is wasn't remarkable in the
16 content, it was; Brian, would you like a cup of
17 coffee? It was who or more specifically what sent
18 the text message. It was my coffee machine. It
19 wanted to know if I wanted to make coffee. And I
20 said, well, not now I have haven't had my shower
21 yet. Can you make it in 20 minutes? And it did
22 this.
23 Technology is coming to the energy
24 sector in a big way, and it's already there. Smart

thermostats are in many homes now. And they can

also communicate with you through your cell phone. They can ask you, they can say Brian, it looks like nobody is home. Would you like to set your home to away mode? And you can do that. And it's a preset, you can determine what the settings are. And you can go away and your home is more efficient than it would otherwise be. Many of these devices can be controllable by utilities, so that they can do residential demand response on peak hours. It can be you know critical peak hours is one of the ways that they can do. And if it's stacked with other types of distributed energy resources, like solar, you can drive down the peak on a particular feeder line. And especially when the systems peak, you can do a lot to reduce, not only pollution, but people's bills, as you can reduce amount of peak energy use.

And sometimes you don't even need to have devices in your homes. There is a lot of companies that use smart meter data or through cloud computing, and it can give you a good sense of what you are using relative to your neighbors to give you a sense of whether or not you can cut back. And sometimes it can give specific tailored suggestions on how you can better save energy sometimes. It can

match you with a provider of energy efficiency

solutions. So I know there is a tremendous amount of innovation going on in solar and in other types of clean energy.

But this other whole other part of clean energy, how clean energy is evolving, I think should be considered in the Master Plan.

PRESIDENT MROZ: Thank you.

The next speaker is Joseph Della Fave. I think I called him earlier.

And the last person is Arnold Cohen. Mr. Cohen?

PRESIDENT MROZ: That is from the list of everyone who indicated they wished to give comments today.

Is there anyone else that I missed?

Sir, can you state -- thank you, we will get to you. We will start here.

State your name for the record, and please any affiliation.

MR. RITTENBACH: Sure. My name is Klaus Rittenbach. And I'm a member of group called Climate Action New Jersey, which has about 500 members. I'm also a member of Citizens Climate Lobby, which has over 11,000 members worldwide. And

I will give you my more extensive comments at the

Trenton hearing, but I just want to say now that I believe that the Energy Master Plan, the 2011 Energy Master Plan Master Plan is woefully inadequate to deal with the challenges that we are finding with climate change. And that needs to be a much stronger connection in the master plan. And to address that specifically, we need to greatly increase our emphasis, the emphasis in the report on energy efficiency.

For example, there is -- I see no mention in the report on trying to bring up our building codes to the German Passive House Standard, that's the standard that's becoming mandatory in many of the countries in Europe, Belgium, Germany, and it's also being widely adopted in New York City. And that can reduce the energy usage in a house by 80 to 90 percent over a conventional house. So that alone greatly reduces -- increase our energy efficiency. And, secondly, we need to greatly increase the RPS for renewables. I think that is inadequate also. And I will go into more details in Trenton.

Thank you.

PRESIDENT MROZ: Thank you for

comments.

There were two people, I think you moved, you were lower.

Can you state your name, please and any affiliation or representation.

MR. DEPAK: Depak. I am affiliated with the Sierra Club, and I'm also a student at New Jersey Institute of Technology, studying computer science.

I would like to address the Board of Public Utilities, and I would like to say that this Energy Master Plan shows an incredible lack of urgency in the issue of climate change. The issue of climate change is an issue that keeps progressing exponentially, and becoming more and more dangerous every year. It's something that a lot of people don't realize, is that climate change is not just affected by greenhouse gases that we emit, but the more greenhouse gas we emit the oceans heat up and all the carbon dioxide and all of the other greenhouse gases that have been trapped in the ocean, the cold ocean waters, keep releasing this. Because when water is colder the molecules are stuck together a lot closer but as molecules heat up they speed up moving more rapidly, allowing these

molecules of greenhouse gases to escape from inside

the waters.

So this issue of climate change needs to be addressed now. And needs to be addressed with some fervor. Now, New Jersey is the 11th most populous state in country. So the amount of energy we consume, takes up a big chunk of this country. We can take a big bite in the amount of energy that we produce as a country. A one percent reduction our energy efficiency will allow the state to stop producing over 3,000 pounds of mercury, 300,000 tons of toxic nitrogen oxide and sulfur dioxide, air pollutants, and over 53 million tons of carbon pollution.

These are enormous sounding numbers, but they are not nearly enough. We need to decrease these number and attack this issue of climate change for the future. This issue is not about what is happening now. This issue is about the future, which is my generation and the generation that proceeds after us. We need look out for the future of this country and the future of the world.

For that reason, I would recommend stopping the production of coal and natural gas by the year 2050. Or even sooner, if possible. We use

25 less than 500 gigawatt hours of coal energy a month

1 in this state. That is a very easy number to get
2 rid of, a very easy number to replace with renewable
3 energy. But the number that a lot of people are
4 looking at is the 2000 gigawatt hours in natural gas
5 energy that we use. And this number is cited by the
6 U.S. Energy and Information Administration.
7 Now, a lot of times what happens is
8 we are continually progressing towards natural gas
9 as we claim it as a cleaner energy. Well, that
10 isn't true. It is clearer than coal, but it is no
11 where clean. Natural gas emits carbon dioxide,
12 emits greenhouse gases. But natural gas has a
13 dirtier side, and that its extraction which is
14 fracking. And we have a responsibility to the
15 states and the neighborhoods and the rest of the
16 country to protect the lives of these people. We
17 may not see the ugly side of fracking, but they do
18 and it is our moral responsibility to insure that
19 does not happen.
20 Thank you.
21 PRESIDENT MROZ: Sir, state your name
22 and any affiliation.
23 MR. TISHARI: Rosnan Tishari.
24 I go back to a program we had here in

the State of New Jersey, when it became the

generator of defensive sciences and star guides. It was tactical, analytical research in defensive science. And we were, our main concern in the 60s and 70s we were having too much poverty, too many babies lost, and rights and what not. So we witnessed that in history. We witnessed the country taken over by corporations and private companies. When we looked at the handling of law, common law, American law. We are governed by outside law. So therefore, now with all the problems we have, we have neglected and not knowing our history of how we all got here. I hate to sound criptonian, but I'm going through the same situation like on Superman.

Everything we're doing is a failure because we're not dealing with this here, our organic life. We are letting inorganic forces govern our feelings. The energy that you are playing around with, what you power is. But it's over for us. Because right now we are allowing geoengineering, seeding of clouds with mercury, fine clouds that cut off the sun, and basing elements that give us all vitamin D deficiency.

We are allowing ourselves -- not understanding that we already have plenty of energy.

25 We have proton energy, we have ion energy. When we

1 put it together it makes everything move. It's us.
2 We're the energy. This what the matrix was all
3 about. We're in the matrix.
4 The Matrix by the way was a court
5 battle fought over the Matrix, because it was done
6 by a black woman and somebody stole her knowledge.
7 She had to fight and now she's going to court. And
8 so the knowledge you've got Gene Roddenberry's Star
9 Trek and my man Mr. Lucas Star Wars and now we got a
10 black woman with the Matrix.
11 So we are all in the matrix. Our
12 future is dead because the force of the young
13 people. We started at 16, I started at 16. Now I
14 finished my 61st birthday. We have finished a 45
15 year quest.
16 Anything you do right now, we can
17 tell you anything about. This here, smart meters we
18 can tell you about smart meters. Cell phones, it's
19 not going to work. Now smart meters blowing up
20 people houses and burning up. That's not going to
21 work because there is always a solution. A solution
22 always comes from young people.
23 You understand Europe did not get
24 it's knowledge just like that. It got it from

slavery. Cotton gin from slaves, who never went to

the university. Even the light itself, the filament came from a black man, not Edison.

We not taking care of our children. The solution for everything we need come from our children. We don't give them physics. They took that out of school. Okay. So there are some law, public law and public policy now is controlled by a corporation. They don't have to recognize no law, not that we put that on them. And, therefore, people must be taught to understand their money is their money. They put their energy into their taxes and taxes -- tax is taken away.

Right, now all these young people suppose to be space people. All these developments, they're going to get some rocks from other planets and bring it here. We don't want that.

You got government and secret government, takes money. They stole a trillion dollars and built underground cities for which none of you gonna get in. And to make sure you don't get in they make sure they create -- give them all these weapons and stuff. And when they go underground, those solar flairs gonna hit. And when the solar flairs hit, how many of us got plenty of water? How

many of us got plenty of food? How many of us got plenty of medicine? We are stuck.

There is nothing you can do. Any energy problem you can come up, any energy solution is garbage, because it has to deal with the law.

We have a law that our bodies must maintain in order to stay on the physical realm of life. It's called the imperative. We must survive and we must have sex, we must eliminate waste. When you produce any kind of energy, you're producing waste. You are blocking the body up. That is what chemical biology, our chemistry is about.

What happens if you get the wrong chemistry? Something is going to go down like this. You get something in the body that it's not supposed to get.

Now we have GMOs, genetically modified organisms. Before it was AIDS. Now it's up front and personal. The bottom line is this here. You have this and that is where it's coming from. It's coming from an international cartel that does not give a damn about anything. But the bottom line, we might be in a science fiction situation and lost.

Now, the energy plan and anything in

other words, everybody must be taught the point of

their body. We are having a mineral deficiency. I don't know how, if you all are scientists, but in school, in the old school we learned about the elements.

Our body must maintain oxygen, nitrogen, and et cetera in order for our morphogenity which produces us out of a woman to birth. Any interference in that genesis in that 9 month period, it creates us with a disease or a problem or mal-disease or a malfunction. It is all because of an environment and our thoughts.

So now scientists said that lot of scientists, have been disappearing because they already know what the deal is. And some of them are in the secret society and they got to go. But us children, our children don't have a chance. There's no future. Okay so a lot of you all here are too old. We are too old. We don't have no -- we have too much baggage, we are full of skeletons in our closet. We don't have a good yard, sun or nothing. But our children are safe. This is why we are put in the situation for our children.

A lot of us are immigrants. We come from another country. There are people in this

25 country that don't -- there's no place for us to go.

1 So therefore you got to go back where you come from.
2 You are going to find out that you have to pay for
3 what didn't do while you were here in America.
4 Okay. Now, our precious element
5 right now is we got to learn how to use proton
6 energy. We got to learn how to use ion energy. Now
7 there was an experiment in the 60s, 70s and 80s
8 where they tried to have a total environment. That
9 didn't work, because there is too many human factors
10 involved. They have not learn how to utilize
11 energy. They are not learning how to use atomic
12 energy, they're not learning to use triatomic energy
13 or subatomic energy.
14 PRESIDENT MROZ: I am going to ask
15 you to wrap up now.
16 MR. TISHARI: I will wrap it up.
17 Bottom line is whatever you come up with, it's a
18 failure as long as you allow private and corporate
19 to control our lives.
20 PRESIDENT MROZ: Thank you.
21 That is list of individuals otherwise
22 that have indicated they wanted to speak. Is there
23 anyone else that wishes to give comments?
24 Thank you all for attending and for

participating, for giving statements.

We'll have two other hearings. I want to thank my colleagues Commissioner Soloman, Commissioner Chivukula, and staff of the Board for being here. Thank you again and we will see you soon.

(Whereupon proceeding adjourned. Time noted: 4:08 p.m.)

CERTIFICATE

I, GERALDINE ADINOLFI, a Certified Court Reporter and Notary Public of the State of New Jersey, do hereby certify that the foregoing is a true and accurate transcript of the testimony as taken stenographically by and before me at the time, place and on the date hereinbefore set forth.

I FURTHER CERTIFY that I am neither a relative nor employee nor attorney nor counsel of any of the parties in this action and that I am neither a relative nor employee of such attorney or counsel, and that I am not financially interested in the action.

_____

Certified Court Reporter

License No. 30XI00228000

Notary Public of the State of New Jersey

Notary No. 2273630

My Commission expires: March 30, 2016

Dated: August 11, 2015