NEW JERSEY BOARD OF PUBLIC UTILITIES

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ENERGY MASTER PLAN STAKEHOLDER
OPEN FORUM; PROPOSED
CHANGES AND FUTURE OUTLOOK

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SEPTEMBER 24, 2010 TRENTON, NEW JERSEY

B E F O R E: LEE A. SOLOMON, President

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I N D E X

SPEAKERS: PAGE NO.

PRESIDENT SOLOMON: If you want to speak raise your hand. You can either come up here and say it or speak from the auudience, whatever you are more comfortable with.

I want to make sure that the Court Reporter can hear. Whenever you speak make sure

that you give us your name and whatever entity you are representing or with, so that we can have a record of that whenever you are speaking and on whose behalf you are speaking, okay?

This is the third of three planned stakeholder meetings regarding the Energy Master Plan. There was a meeting that Frank Felder from the Bloustein School chaired regarding data analysis and assumptions a couple of days ago, September 22. We discussed energy,environment and can a them incompetent development.

And I think if I am correct, most of you, if not all of you, were there that day.

This is a more general discussion, an opportunity to fill in any blanks, state any positions that you think we haven't heard.

Let me also remind you that comments can be submitted in writing to our E-mail address, which

is EMPPadmin@njcleanenergy.com.

So if at the end of this meeting or other people who may not be here, as you make them aware, you may make written comments that will be considered and will be made part of the record.

I want to thank you all for being here and participating. This is the last planned EMT stakeholder meeting. I said previously we can have others, based on the numbers I see here I don't think that may be necessary, but there may be things that you don't think we have heard, but again, we

would prefer the submission of written comments. We have that option going down the road or conducting another stakeholder meeting, if necessary.

There will be at some point, I think I used sometime in November yesterday, I was encouraged to be a little more flexible on that for Staff's sake, the Governor has asked for a report on the Master Plan before the end of the year.

Sometime before that there will a draft that will be made public, I hope it will be sometime in November, by the end of the month, it may spill over into December.

Then there will be after that a version is

put out there for the public consumption, an opportunity for comments and hearing on that draft version, the amendments to change the Master Plan.

So just because this is the last stakeholder meeting doesn't mean it is the last chance anyone will have to make comments as to what the ultimate decision is.

Again, I'm hoping that it will be sometime before the end of November, it may spill into December. There is an awful lot of work to be done. There is a lot of statistical information to be assimilated and a lot of comments to be considered.

You can also of course visit the website for any additional information that you require and again, I want to thank you all for being here, and if anybody would like to comment at this point in

time, raise your hand and come up front or raise your hand and speak from your seat. Make sure that you speak loudly so that the court reporter can hear you. Take your time so we don't break his fingers, make sure that you give us your name and title for the entity that you are representing.

The floor is open.

Yes, sir?

I neglected to mention Commissioner Fox

6

and Commissioner Asselta. The other people up here are senior Staff, in case you are wondering.

MR. FURMAN: My name is Larry Furman. I represent myself, and thank you for extending this opportunity to comment on the Energy Master Plan. It is a privilege to live in a state where ideas and opinions whether visionary or conventional are sought by the agents of the government of the people, "of the people, by the people and for the people."

If Energy, Environment and Economic Development is a prioritized list it is good to see "Environment" placed before "Economic Development".

As Bill McKibben notes in "EAARTH," the world is a different place than the one on which we were born, and the one on which we evolved.

Regarding the causes, I would point to the fact that for most of the holocene period the concentration of carbon dioxide and other greenhouse gases was about 270 parts per million in the

atmosphere, equivalent to 2.53 trillion metric tons. Today, at the beginning of the autumn of 2010, the hottest year on record, the concentration is 390 parts per million, which is about equivalent to about 3.669 metric tons.

That data is on the Deutsche Bank website. Deutsche Bank is not run by green groups. To reverse this trend we must first stop pushing carbon dioxide into the atmosphere and then figure out how to pull a lot of it out.

The Renewable Portfolio Standards in New Jersey and 23 other states and Washington DC and the non-binding goals in five others states are a good start. Here in New Jersey the current Renewable Portfolio Standard calls for twenty two and-a-half percent generating capacity by 2021 which gives us about eleven years to implement a renewable generating capacity capable of generating 18,672 gwh of electricity per year.

We need to define the Master Plan with consideration of the true costs, I am having technical difficulties --

PRESIDENT SOLOMON: Take your time. Make sure when you speak, some of you may have written comments that you are speaking from, speak slowly and read slowly so that we don't kill nour court reporter.

MR. FURMAN: Thank you. So to develop the Master Plan we have to consider the true costs, the risks, the security concerns and the economic

externalities and reasonable long-term and long-range projections.

We need to look a hundred years into the future define the RPS for the next century. Will our grandchildren and great-grandchildren buy oil from the House of Said or the Mullahs of Iran? Will they blow up the last mountains of West Virginia? Will they drill for oil in the Gulf of Mexico or off the coasts of New Jersey? Will they build more nuclear power plants? Or will they be living in a human economy in harmony with the biosphere, in a world with a Renewable Energy Portfolio of 100%?

Some citizens and the Commerce and Industry Association of New Jersey have commented that we should build more nuclear power. Some are pushing for development of the Purgen plant, a five million dollar experimental coal with carbon sequestration plant to be sited in Rahway. Others favor solar, wind, biofuels, and conservation. In the interest of time I will limit my discussion to the sustainable technologies. I also have observations on coal and nuclear power which I have submitted via E-mail.

The Brundtland Commission defines as sustainable development which meets the needs of the

present without compromising the ability of future generations to meet their own needs. John

Eherenfeld defines sustainability as flourishing forever. Using what John McCain might consider straight talk we would say, "Consuming resources that can never be replenished and creating tremendous quantities of toxic waste is not sustainable. In addition to energy conservation the only sustainable energy systems are built using renewable systems, solar, wind, tidal and bio-fuel." Clean Ocean Action is absolutely correct that we must build solar energy systems and conserve. They were, however, wrong in their 2008 conclusions regarding wind power. Wind power at about six billion dollars per ghw of nameplate capacity seems to me to be about the same price as solar at about six billion dollars per ghw of nameplate capacity.

To talk about sustainable energy a little bit abstractly or technically, when we put a solar module in the path of a stream of photons, or a wind turbine in the path of stream of air, we use some resources to make the device but we don't consume any fuel in the ongoing process by which we transform the kinetic energy in those moving particles of light and air into electricity. We

don't create any waste.

No arsenic, no mercury, no radio-nucleotides, no carbon dioxide. The U.S. Department of Energy says, "Wind energy could provide 20 to 30 percent of the eastern half of the country's energy needs by 2024."

When people say wind turbines spoil the

view, they don't consider the haze of smog on the horizon spoiling the view. Perhaps worse, they force the status quo of nuclear and coal over offshore wind. This spoil the view nonsenses is a trivial subjective complaint which is neither provable nor disprovable. Wind turbines allegedly kill birds so do cell phone towers, buildings like the Borgata and domestic cats, and like most Americans frankly I am not a vegetarian, I eat chicken, duck goose, I cause birds to be killed and I eat them.

I don't eat tuna, swordfish or lobster because there is too much mercury mostly from coal in them. But offshore wind turbines form artificial reefs which nurture fish stocks, which feed birds. Wind turbines produce power without producing mercury and other toxic wastes and without consuming resources that once used are gone forever. That is

what is important.

What the spoil the view environmentalists must understand is that offshore wind farms and solar energy systems, and even measures of conservation have an environmental impact but so does breathing, we exhale carbon dioxide. We need to look at our economy as a subset of human ecology and integrate the economy into rhe biosphere in a sustainable manner. As Wendell Bery says, "The defenders of nature and wilderness sometimes seem to feel they must oppose any human encroachment

whatsoever, just as the industrialists oftenn apparently feel that they must make the encroachment absolute or, as they say complete the conquest of nature. People cannot live apart from nature, yet, people cannot live in nature without changing it. But this is true of all creatures, they depend upon nature, and they change it."

Sustainable energy is not natural energy. Sunlight is natural. When it shines on a leaf, that leaf photosynthesizes sugars out of carbon dioxide and water. But when that leaf is on a farm, it may be natural, but it is no longer wild.

PV solar modules are not made from leaves. The best insulation today is cellulose treaced with

boric acid. That is not one hundred percent natural. Like nuclear power plants and coal fired turbines, like houses and tents, wind turbines, photovoltaic solar modules, and insulation, are all man-made. Nuclear and coal based power systems are tremendously expensive and generate toxic by-products that must be isolated from the biosphere. Ground mounted PV solar systems shade the ground. Offshore wind turbines create artificial reefs. These will influence local flora and fauna. but shade and artificial reefs are not toxic. Wind and solar are sustainable. They support the biosphere. An economist could say, "The economic externalities of unsustainable technologies are liabilities. The economic externalities of sustainable technologies are assets which produce

income or dividends. "

We know this. That's why we have the RPS of twenty two and-a-half percent by 2021. Maybe we should be acting faster and we should not be throwing roadblocks in the path of sustainable development, but we are acting. Rush Holt who represents New Jersey's 12th district in Congress understands this and Rush Holt has discussed the DOE's Eastern Wind Integration Study with his

constituents.

Looking beyond the short term, the ultimate goal of the Energy Master Plan must be an energy portfolio in harmony with the biosphere, one that is one hundred percent renewable and meets the Brundtland or Eherenfeld definitions of sustainability.

The real problem with wind power is similar to the real problem with solar power. These are intermittent sources of energy. The sun shines twenty four-hours a day in space but does not shine twenty-four hours a day over New Jersey. We need to integrate solar power, wind power, hydro and biofuel in such a way as to provide supply in accordance with demand.

Proofessor Jurgen Schmid and his colleagues at the University of Kassel in Germany have done just that. Smid and his colleagues have developed the Kombikraftwerk or Combined Cycle Power Plant, and proven that they can use wind, solar,

biomass and hydro to meel all Germany's electricity needs around the clock regardless of weather conditions.

Smid says, "If renewables continue to grow as they have done in the past, they will provide

about forty percent of Germany's electricity needs by 2020. We could therefore achieve a hundred percent by the middle of the century."

So what if we deploy solar on homes, commercial buildings and parking lots, like at the Atlantic City Utilities Authority, and on museums like at the Liberty Science Center and schools, like Rutgers and Toms River? And malls, schools, factories, like in Spain and Germany?

What if we put land based wind turbines on high school football fields, parking lots?

And wind turbines off the shore from Cape May to Sandy Hook and using the German Kombikraftwerk model, we integrate solar, wind and biofuel with insulation and a computerized grid for an RPS of one hundred percent by 2050?

That, Mr. President, would be a Master Plan.

PRESIDENT SOLOMON: You obviously have a science background.

MR. FURMAN: I have a Bachelor's Degree of Biology and I am studying for an MBA in Managing Sustainability.

PRESIDENT SOLOMON: Is there any information provided or do you have access to any

information regarding any environmental impact as to the production process of wind or solar or any other renewables?

MR. FURMAN: The production?

PRESIDENT SOLOMON: Yes.

MR. FURMAN: Yes, clearly they are manufactured, there has got to be some -- I don't know. I'd be happy to look into that.

PRESIDENT SOLOMON: I throw it out there. If anyone has the information. We don't manufacture a whole lot here but obviously there is some interest in attracting that manufacturing.

MR. FURMAN: World, Water and Wind used to be headquartered in New Jersey. They were a acquired by a Texas company and I don't think they exist anymore.

PRESIDENT SOLOMON: Thank you.

The gentleman in the back.

MR. WALMAN: Thank you, Mr. President, Commissioners.

My name is Bart Walman, I am with a company called Amelio Solar.

With your comments on manufacturing, I thought I would raise my hand.

Amelio Solar is the home of a technology

team that going back beginning about forty-five years ago was first in the world to commercialize

what they call thin film solar panels which are almost universally expected to overtake the traditional solar panels as the dominant solar power generation platform because of their lower cost.

There is some discussion about the difference in efficiency but efficiency and isolation of cost is not a very useful metric when you get to utility scale power solutions.

One of the things that I wanted to bring to your attention is exactly the topic of how an RPS policy or solar or renewable energy policy can actually do more to support manufacturing in New Jersey.

One of the issues that we have found is that really if you look at the majority of the economic value that goes into the solar installations, with all due respect to the different installers here and everything else, most of that is actually going to China. We know that because we have been supplying solar panel factories to China for almost thirty-five years, and so when you look at programs such as the much celebrated forty megawatt program that went up on the light pole, the

public description of that project is a two hundred million dollar project so that would mean a five dollar a watt installed capacity cost, I'm not sure whether that includes the expense that PSE&G may have incurred in addition to that to install them on the light poles. At five dollars a watt that is an uneconomic type of project where most of that value

probably went to the Chinese solar panel manufacturers who supplied it.

In comparison, a company like ours, a New Jersey based, really the last unfortunately, of New Jersey based thin film solar panel manufacturers, and to my knowledge the only solar panel manufacturing company in New Jersey at all at this point, we could have put up the same project for about three dollars a watt.

So at a certain point the policy should not just subidize sort of run off short-term installation projects but should look in a more holistic fashion.

I know there is some additional benefit if somebody uses made in New Jersey panels, but I think that is a little bit disconnected from the SRECs. As you start to review your policies going forward, of course I am very biased because I'm coming from

the manufacturing side, but I think we need to look at this as one component of the program.

I will give you an example. One of our Chines customers just came to us two years ago and said they have one billion dollars that they are ready to invest in projects in New Jersey. Of course, the catch is that the majority of the content has to come from China. It is a shame that you have a technology which really is a world changing technology from the photovoltaic respect and that is the thin film technology invented in New

Jersey, and most of it is being exploited in overseas markets.

The only caveat I will say to that is, I don't want to digress, first solar is the most well-known of those and there is a lot of issues with respect to cadmium about the leaching of cadmium, a very toxic substance, into ground water from damaged panels.

What Amelio Solar is doing, we are focused on thin film amorphous silicone which is a proven legacy technology which has been in the field for decades, a very high quality, very durable technology. It generates more electricity per megawatt capacity than any of the other technologies

because of its temperature tolerance and then we have a newer technology, CIGS, copper, indium, gallium, selenium, which is a non-cadmium based and containing technology.

What we are hoping to achieve in New Jersey is a more holistic program that really tries to spur manufacturing growth here.

Last week I had a team in from Brisbane, Australia, proposing exactly this. We had a team in a couple of weeks ago from Mumbai, India, trying to do the same thing, a vertically integrated program with manufacturing feeding solar panels and then feeding power projects with government SRECs or government PPAs, yesterday we had a group in from China doing the same on a large scale.

I don't want to take any more time, but I

would like to offer any input or any more details on some of these vertically integrated concepts. If we are going to put ratepayer dollars into solar it would be great if more of that went to driving manufacturing jobs in New Jersey, especially for technology invented in New Jersey, rather than mostly enriching Chinese companies and other foreign companies, with all due respect to our customers in China.

PRESIDENT SOLOMON: If you do have some ideas or comments, if you would submit them?

MR. WALMAN: I would be pleased do to do that.

How shall I do that?

PRESIDENT SOLOMON: Our E-mail address is EMPadmin@njcleanenergy.com.

Thank you very much. I appreciate it.

Yes, ma'am?

MS. BRAUNSTEIN: I'm Lori Braunstein. I am Executive Director of Sustainable Cherry Hill which is an all volunteer community sustainability group trying to engage regular people in this conversation.

And I am really here representing my children, I guess I should say, so there are a lot of people talking about a lot of details and numbers and data which is really important.

But what I would like to talk about is keeping it personal and keeping it local.

The idea is that as the Energy Master Plan currently stands that by 2020 the goal is to reduce the greenhouse gas emissions by twenty percent. If we continue to aggresively work on our energy efficiency and renewable energy as it stands right

now we will probably nhave a pretty good chance of meeting that, but our goal for eighty percent reduction by 2050 we really don't have a way of meeting that given our current technologies and our current program.

So I am looking at essentially thirty years from now when my kids are about my age, and you know, they are going be shaking their heads at us and saying, what are you guys thinking, and you need to really do something more to, you know, to have helped us.

Essentially, looking at the economy as being something that is outside of the boundaries of our natural world, it just doesn't make any sense. I mean in order to have a sustainable economy we have to not be undermining the natural systems that we depend upon, so it is really just common sense to me.

And so what I would like to really talk about is the use of our communities to help achieve this and really the energy efficiency idea is to help to make this happen. A lot of people are going to be talking about renewable energy and they are really leaving out that practical thing of just the energy that you don't use is better than the energy

that you have to use, no matter how clean it is.

I would like to basically just say that about seventy percent of our greenhouse gas emissions and our energies comes from our residential, commercial and our industrial buildings.

So we really need to put a lot of emphasis on helping the buildings to become more energy efficient. It really makes sense because it is known to be the best return on investment, it creates jobs and stimulates the economy and it encourages personal action and responsibility.

I am going to quote a report that I found from the Northeast Energy Efficiency Partnership that was actually commissioned by the BPU in 2009, that basically said the potential of community based strategies have barely begun to be realized. To achieve this potential the communities need more resources and support to move forward and to have more impact.

Our existing community initiatives need to be expanded and/or moved toward implementation and other bold new initiatives need to be considered that could lead to major energy savings.

I would like to point out that so much is

happening at the community level, our Federal government, obviously there is not much happening

rightd now.

At the state level, New Jersey really has been a leader in this area and I hope that we will continue to be so, but really it is in the communities that a lot of this is taking place. We have Sustainable Jersey certification program, over three hundred towns are registered. The EPA gave a climate showcase community grant to three towns in New Jersey, including Cherry Hill, to really look at how energy efficiency in communities can help to have a significant impact on greenhouse gases, and just in general, our local government are adopting climate goals.

So I really want to encourage you guys to not give up on residential programs especially and to really beef up our business efficiency programs. I know that the clean energy program has not been addressed really in an efficient manner, and I really hope that we won't throw the baby out with the bath water and instead really look to see how these programs can be improved and made more practical and efficient because really this is about the people, and we need to really be able to have

the support, we need to make the changes in our homes and in our communities, and of course in our businesses.

So I just would like to encourage really long-term smart thinking and some visionary leadership because it is the short-term thinking, the latest politics and elections and things like

that that get us in trouble.

I think we all really owe it to our future generrations to think beyond that.

Thank you.

PRESIDENT SOLOMON: Thank you.

At the risk of embarrassing someone in the audience, I see that former Governor Florio is sitting here in the second row. I appreciate your participation in the process.

MS. GOTSCH: Paula Gotsch.

PRESIDENT SOLOMON: Speak up, please.

MS. GOTSCH: My name is Paula Gotsch. You want to know the group I'm with?

PRESIDENT SOLOMON: Who do you represent?

MS. GOTSCH: I will be wearing two hats today. I will speak for Grandmothers and Mothers and More for Energy Safety, and also I am energy chief of the League of Women Voters in Mercer

County.

I want to submit this from us. In the previous testimony to the Energy Master Plan in 2006, we forwarded documents that projected that energy efficiency and renewable energy development would be the safest and most economic future for New Jersey.

As an update I am offering three reports that just happened to come in this week that speak about how the nuclear industry is in a free fall, numerous things that have happened lately, and also

because it is being pushed so heavily by so many people in government I think there is a chance that if we buy into the failing nuclear industry that we will in effect crowd out our renewable energy program and our energy efficiency program.

Some of the reports address that. The three reports are a press advisory from the Hastings Group, look at nuclear manufacturing in this issue of Industry Week and other sobering nuclear realities from the Huffington Post.

One of the interesting things that the Hastings Group said was that Martin Fertell (phonetic) who is head of the Nuclear Energy Institute which is the biggest fan of nuclear, it is

26

the lobbying group for nuclear energy, just said in a speech to the World Nuclear Association recently that plans for nuclear building in USA have been delayed due to the lack of demand for electricity.

I know that a lot of the data that we are talking about is supposed to be for publicly available data and so some of that data sounds suspiciously outdated to me. When the head of the Nuclear Energy Institute says that the demand for electricity is way down, I don't know whether our projections at this point are even taking into account that manufacturing is down worldwide because of the economy.

Even taking that into account this still is a thought that we may not be needing as much as we are projecting.

And then also, well, I will let that ride for a while, and now I will wear my League of Women Voter hat.

I will hand these out, too. But Exelon has just applied and received permission from Lacey Township, I will be very local here, I am from Ocean County, to extend their cask storage that they want, another twenty years for cask storage, and they did receive that permission.

27

In a meeting down there at the Zoning Board I heard one of the engineers say being questioned by the Zoning Board, about these casks, how long are these supposed to last, and he said they are licensed for ten years but they will probably last for sixty.

So then on top of that the Nuclear Regulatory Commission just said that they have passed their waste confidence ruling. The waste confidence ruling is their version of saying, go ahead and build these plants because we are okay with the waste.

That ruling says that all of the waste will stay on the site for sixty years and then nothing about what happens after.

Now, the Mayor of Lacey did ask Exelon engineers, what do you do at the end of sixty years?

Well, they didn't know.

At the same time those of us who have been following through with the Commission on nuclear

waste and there has been testimony, and attending some of their meetings, and all that, and we are not seeing anything that is really in terms of what is going to happen to this waste at the end sixty years, in fact nada that we can see.

28

Reprocessing is very dangerous and we end up with separated plutonium which is the worst nuclear proliferation fear going and you develop waste streams of toxic radiation that complicate the whole problem of nuclear waste.

I just want to say that because of the concerns we have locally about our highly dangerous radioactive nuclear waste, by the way, the NRC is comfortable with the waste being put there for sixty years, in other words, we are all going to become Yucca Mountain, we are all going to be stuck with this nuclear waste, but though they are comfortable with it a lot of people aren't, a lot of scientists aren't.

For instance, Frank Bartisle (phonetic) from Princeton who serves on an international panel, the foremost group of national experts, nuclear physicists that look at reprocessing and the safety of storage, and all of that stuff, they are not thrilled with the idea of this stuff being in the casks for so long and the risks involved with this stuff being up in these elevator fuel holds which are overstuffed now.

I called the DEP. They tell me there is about three hundred fifty tons of highly radioactive

nuclear fuel in the casks at Oyster Creek and seven hundred fifty still in the fuel pool.

So this fuel pool is not designed for this amount of nuclear waste. They have had them reconfigured, they are a lot closer, which risks a fire, and a lot of people, scientists worldwide, would like to see those pools thinned out for safety.

To get to the point, the League of Women Voters is having a forum tomorrow. Ocean County's tons of nuclear waste, are we stuck with it? What will become of the tons of nuclear waste currently stored on the site, and what will become of the additional waste?

These are questions that no one seems to have answers to right now.

To bring this to closure, I just want to say that I know that it is still in the mix, I guess, to think that there might be two more nuclear plants in New Jersey. I think in light of the fact that we supposedly have a window of opportunity to get this climate change stuff going and nuclear is so far behind schedule as it is, and the fact that we still don't have any place to put this stuff, by the way, the casks that are going in there by us are

made by Ariba (phonetic) from France is having all kinds of quality control programs with their plants

they are building in France and in Finland.

The EPR, which is their darling new third generation reactor has been criticized for real serious safety problems, some of which have not been resolved which is why the NRC will not relicense them here.

To bring this to a close, GRAMMY is urging as the woman from, I forgot the name of her County, saying, we would have so much room for community energy efficiency, for education on that, there is much that can be done with energy efficiency, there is so much more that can be done with solar and wind and therefore, our feeling on this is , we would be more comfortable with relying on energy that doesn't leave our grandchildren, I am looking around this room, sixty years those casks are going to be good for, we will all be dead by then, who is going to deal with that? Our kids and grandchildren.

That's a nice birthday present to leave them all.

But any way, thank you very much. You have been very hospitable.

PRESIDENT SOLOMON: So as the President of

the League of Women Voters from Ocean County are you advocating to shut down the nuclear complex in New Jersey?

MS. GOTSCH: No. We are just holding this forum, we are worried, we are going to have an international expert on nuclear waste come to talk to us, what are your options, guys, what can we

really do, because if you shut down every nuclear plant in the country right now, we have tons and tons of military waste, we have tons and tons that is nuclear waste, over here, we have tons and tons of low level, which is really intermediate level nuclear waste, we are lucky, lucky for us that Barnwell (phonetic) will still take our low level waste.

PRESIDENT SOLOMON: As I understand, is your testimony relative to the Energy Master Plan, what are you advocating?

MS. GOTSCH: For Grandmothers.

PRESIDENT SOLOMON: And the League of Women Voters?

MS. GOTSCH: From GRANNIES' standpoint we are advocating against any new nuclear in New Jersey, we have advocated against it all along, that Oyster Creek should have been shut down.

We are now saying that this nuclear waste, GRANNIES is saying this nuclear waste that we have and have to do something with should be enhardened on-site storage, which is internationally recognized as the only only way to at least make the nuclear waste less dangerous.

Thank you very much.

PRESIDENT SOLOMON: Thank you.

MR. SPAIS: Good morning, Mr. President and fellow Board members of the Board of Public Utilities.

My name is George Spais, I represent the New Jersey Builders Association.

I have seen state policy fluctuating from encouraging housing to discouraging housing depending on the economic times. Regardless of the view of the housing industry, it is an incredible condition right now are where people, where part of the environment, we all need a place to live. It is how we interact with that environment that will make a difference for the future of all New Jersey residents. I want to focus on four key points that I would like to see in the Energy Master Plan.

The first point being any type of increased energy costs which new housing should

provide the initial homebuyer with a seven year payback.

A new homebuyer typically resides in their dwelling for about seven years. So to get that payback within seven years will not have a negative effect on the housing industry or the cost of the new housing. You start going beyond that seven year payback period it tends to discourage the new homebuyer from purchasing that house.

The second item I would like to focus on is encouraging the removal of restrictive zoning.

Restrictive zoning in situations where you have a large zoning requirement, requiring two acres or three acres with the ability to put only one single-family unit on that lot. If we can see more oning that encourages multi-family housing, attached

units, we will see a better energy efficiency increase because multi-family housing is generally about fifteen, twenty percent more efficient than single-family housing because you have common walls between some of the units, you have less heat loss, and the national new building standard and the National Code Council standard encourages multi-family attached housing.

The third item I would like to discuss is

encouraging the utilities to have smart meters for existing and new housing which shows real-time energy consumption in a little digital LCD or LVD display on the meter. A lot of electric meters out there are still the old analog type, they have that dial that rotates. You can't really tell what the energy consumption is.

If you build a Energy Star home that meets, say, the green gold standard, the electricy consumption on that home is dependent on the consumers' habits. We can do everything in the world to provide the technology to energy efficiency but it comes down to consumer habits. A consumer can buy an energy efficient house but they may have habits that don't sustain it, but by encouraging smart meters we will have consumers going outside looking at the meter seeing what their energy consumption is from having their TV on, their computer on, you will find the consumers in existing and new housing modify their habits based upon what

that meter is saying to them. How many kiloWatts were consumed by the hour?

What I would like to stress is, encourage more incentives to make existing homes more energy efficient. New homes are highly energy efficient

now with the International Conservation Code, it is much more restrictive, these houses are much more tighter.

Existing homes provide the consumer with a lot less energy efficiency. We keep putting more restrictions on new housing but we are actually trying to get blood from a stone at this point, they are already very energy efficient, we should focus more on the existing homes to have higher energy standards by providing incentives and encouraging rebates.

Those are the four main points I would like to stress.

I will submit written comments to you to review.

Thank you much for the opportunity to be here.

PRESIDENT SOLOMON: Yes, sir?

MR. RUGA: Good morning. I am Elliott Ruga with the New Jersey Highlandss Coalition.

The goal of the New Jersey Energy Master Plan, as stated in the 2008 plan is to guide us toward a responsible energy future with adequate, reliable energies supplies that are both environmentally responsible and competitively

priced.

The overview statement of the September 22 stakeholder meeting at Bordentown this week was different in tone. That was "The building blocks of a diverse and secure energy future must balance three critical elements, reliability, safety and affordability."

This is a true statement.

However, the omission of any reference to environmental responsibility causes us to wonder if priorities have indeed shifted and if so, we are greatly concerned.

The critical element of safety might tangentially allude to vague environmental considerations, but this more so suggests to us that the sources of energy and its delivery of something that is not going to electrocute us or vaporize us.

Where is the assurance that environmental responsibility is as much a building block as reliability, safety and affordability in the shaping of energy policy?

The innovators who first brought to market such concepts as renewable energy, green building, demand-response, et cetera, created those concepts within the context of sustainability and

environmental responsibility.

States, including New Jersey, in adopting

a renewable portfolio standard and issuing solar and other renewable energy certificates have through policy exerted control over the marketplace, that it grow in order to achieve goals toward a more sustainable future.

Please, keep it up and build upon it because it is in the long term environmentally and economically good policy.

But RECs, SRECs, WRECs and other green certificates cannot be merely market commodities.

Clean water, clean air, quality of life, public health and well being must be considered as intrinsically important as any economic factor. You may not be able to issue cerificates for such environmental considerations, but they must be certifiable nonetheless.

Let me give you an example. PSE&G's proposed Susquehanna to Roseland transmission line upgrade project in many areas conflicts with the stated goal of the 2008 Energy Master Plan. You can easily develop a Master Plan that would accommodate such a project, but you would first have to discard any concern for the air pollution that rains upon us

in New Jersey from the coal fired plants in Pennsylvania, West Virginia and the elsewhere that feeds into this transmission line.

You would also be allowing avoidable impacts to upland forests, fresh water wetlands, threatened and endangered species and significant recreational and cultural resources. You would also

slow any market driven incentives toward incorporating smart grid technology and demand side management.

It would be so easy to develop a plan that put the environment in the back seat, well, anyone could accomplish that. We expect you to work harder.

Is the cost of energy forcing business to flee to neighboring states such as Pennsylvania?

Well, New Jersey does rank 8th in the country in the cost of electricity. Pennsylvania ranks 45th. But we don't want dirty coal-fired plants that provides cheap electricity in Pennsylvania. If you recall, two weeks ago DEP commissioner Martin petitioned the federal government to enforce the Clean Air Act against a coal-fired plant in Pennsylvania that pollutes our air.

Some other statistics that should mitigate

any energy concern about energy costs in New Jersey as an indicator of our business climate as a place to live, we rank 2nd in median household income, we are first in percentage of households that are millionaires. we are 30th in the rate of personal bankruptcy, no offense to Pennsylvania, but by the way, they are ahead of us as 23rd. We rank 8th in gross state product, all of the states ahead of us are hugely larger in size and population.

We are 7th in the number of Fortune 500 companies headquarted in a state. We rank 6th in

the percentage of college graduates. New Jersey remains a choice place to live, to work, and therefore, a place to do business.

New Jersey is a great place. Please do your part in keeping it that way for all of us.

Thank you.

MR. MARSHALL: Bob Marshall, on behalf of the New Jersey Energy Coalition.

Just to give you some background on the New Jersey Energy Coalition we support a broad portfolio of energy options and technologies that reduce carbon and provide affordable, reliable energy for New Jersey.

New Jersey Energy Coalition members

currently include utilities, energy companies, renewable developers, educational institutions and energy efficiency companies.

As we begin to examine and assess the dynamic goals and targets of the New Jersey Energy Master Plan we clearly cannot ignore the cleanest, most reliable source of base load energy, nuclear energy. Electricity from nuclear produces no greenhouse gas emissions, it is the cleanest, most reliable form of electricity we have.

Nuclear power is also a reliable producer of clean energy. In 2009 New Jersey's nuclear plants ran ninety-two percent of the time. This compares with projected availability of wind and solar at much lower levels of production.

In terms of economic development, nuclear

plants like Oyster Creek, Salem and Hope Creek employ thousands of workers in good paying jobs and provide millions of dollars in tax revenues for the communities in which they are located.

We already get more than half of our energy in New Jersey from nuclear. We need to keep those plants operating as they have for many years.

We should also be mindful that requiring expensive cooling water retrofits and mandating

costly cooling towers would not only be uneconomic but would reduce the capacity of the plants, capacity to replace this lost output would likely be accomplished by costly methods using fossil fuels.

The New Jersey Energy Coalition supports the building of additional nuclear plants. A new nuclear plant would employ fourteen hundred to eighteen hundred workers in the construction phase, both in skilled crafts and professionals in a variety of positions. A commencement of commercial operation the power plant would continue to be a huge economic engine employing thousands of New Jersey citizens on daily basis as well as thousands more during maintenance periods.

On average the average nuclear plant generates four hundred thirty million dollars for local communities.

In closing, achieving energy goals of Knew Jersey will require a diversity of options and nuclear is a proven reliable, clean source that will

enable New Jersey to maintain jobs and create new ones while providing stability for our future energy picture.

Thank you.

PRESIDENT SOLOMON: Thank you.

Yes, sir?

MR. GREEN (phonetic: Good morning, Garfield Green of Paradigm Realty, I'm here from Salem County. I will simply advocate for the creation of Green Opportunity Zones, simply overlay the existing Urban Enterprise Zone and Urban Enterprise Zone in impacted areas with the Green Opportunity Zone whereby small businesses can show up at the local planning board which is currently our biggest barrier to economic development, and have the New Jersey share the greenhouse gas initiative funds, the Planning Board fees of these small businesses who promise to renovate existing vacant buildings in these areas, to third-party certified green building standards, reduce greenhouse gases, increase energy efficiency.

Thank you.

COMMISSIONER FOX: Can you submit that in writing?

MR. GREEN: Yes.

MR. SOBOLEWSKI: Good morning.

My name is Terry Sobolewski, I am with SunPower Corporation and I represent also the Solar Alliance in New Jersey.

Just a background, Solar Alliance is a

group of approximately thirty of the largest photovoltaic solar development and manufacturing installers and finance companies for solar energy in the United States.

I would like to just make a handful of comments. First I would like to address the goals of the Energy Master Plan, the importance of a balanced energy portfolio, specifically I would like to address the cost and benefits of solar as we have seen them to date in New Jersey, and then I will project them going forward and I would like to offer or share a few policy recommendations to consider to look at. The solar requirements in the Energy Master Plan in our opinion as currently stated are quite modest.

The Solar Advancement Act is a reasonable response to the opportunity and needs for economic development and clean electricity for New Jersey. In fact, solar and renewables can contribute much more than the current EMP assumes, and the State plays a critical role in getting there.

As demonstrated in previous comments by the Solar Alliance, solar alone can supply up to fourteen gW of capacity based on our natural resources here in the State and provide a

substantial percentage of the gap in new generation that a number of analyses have predicted.

New Jersey has already put into place key building blocks to realize its solar potential . The Solar Energy Achievement and Fair Competition Act has set the stage for nearly 5 gW of solar energy by 2026 and with further market enhancements solar will continue to deliver competitively priced electricity.

Moreover, the benefits of solar as an economic development tool should not be overlooked, with an installed base of over 5,000 systems in New Jersey, representing two hundred mW of total capacity this means more than 5,000 businesses and residents are now receiving the benefits of lower energy costs and a return on their local investment in infrastructure. Like CHP EE and other distributed technologies, the systems and improvements are owned or operated on behalf o these host customers, and these ratepayers will derive the benefits of predictably priced electricity and incentives directly. Solar power acts as a powerful hedge against volatile and generally rising energy costs, allowing these New Jersey based businesses and residents to retain jobs and invest the savings

in their own operations or in their own homes.

Second, the levelized costs of solar electricity should be considered within the context of a portfolio approach for the electricity mix in the State. The very purpose of the EMP is to take a long-term view and enable policy makers to create a portfolio that balances short-term costs versus

long-term rate stability.

Third, in considering costs, we must also consider countervailing benefits. In the case of solar energy these benefits are both significant and varied.

I would like to address a few specific data points. First, for costs. For ratepayers the current cost of solar in the average New Jersey residential utility rate is about .0017 or less than two tenths of a penny, that's from the CEEEP analysis done just recently as part of the Energy Master Plan discussion.

Relative to other technologies the levelized cost of energy for solar is currently between thirteen cents and thirty cents per kilowatt hour depending on scale, technology and the application of the installation. For power plants, solar is competitive and in some cases cheaper than

gas peaking and even nuclear and can deliver energy at discount to peak prices in four of the top ten metropolitan areas, including New York, Philadelphia, Houston and Boston. That's a study that was released about six months ago.

And unlike most other technologies where costs are increasing costs of solar is declining about three percent per year on a long-term basis, more dramatically of course in the last two years, which means the economics will continue to improve as well, and again I will provide in my written

comments the sources of that data.

On the other side of the ledger are the benefits of course, and to date the New Jersey solar institution now includes more than two hundred megawatts installed capacity. That capacity has been put into place by what is now accumulated to about two hundred or three hundred companies that do solar energy installations in the State, or provide financing for solar installations in the State, and those companies now employ more than three thousand people. It is one of the few segments in the New Jersey State economy that is growing and drawing increasing amounts of private investment. Those two hundred megaWatts of solar energy installed

47

represent about seven hundred million dollars of private investment, that's net of any Federal tax incentives.

In fact, the run rate for solar energy installations has doubled from 2008 to 2009 and doubled again from 2009 to 2010, so this is an extraordinary growth segment in the New Jersey economy as it stands today.

Lastly I would say that it is important to recognize that solar energy reduces our in-state wholesale electricity prices. So of course it extends great benefits to those that install those solar energy systems but it also help suppress wholesale energy prices for all ratepayers. Estimates suggest 5,000 mW of solar energy could reduce LMP by more than $50/MWh which would generate

$460 million annual benefit across all ratepayers. Moreover, as energy prices increase, these benefits increase proportionally.

Some may argue that other technologies generate the same benefits, and that may be true, but the magnitude of the benefit varies depending upon the nature of the technology. For example, solar has been proven to create more jobs per Mw of installed capacity than other technologies,

specifically six times more than nuclear and eight times more than natural gas and coal generation, I will provide the reference for that study, that's of course driven in large part by its distributed nature. It is also true that all technologies enjoy some form of subsidy whether it be Federal loan guarantees, tax credits or direct R&D funding by DOE and in light of this any accurate comparison of technologies must certainly take into consideration all the accumulated costs and all of the economic benefits.

Looking ahead we have a great opportunity to further leverage solar as a key component of our generation mix, an opportunity that will deliver vast economic and environmental advantages in a time where we desperately need both. To build on our progress to date and to continue to capture this great opportunity, we offer these broad policy recommendations.

First and foremost, we think we need to

drive scale and efficiency. New Jersey will benefit from continued efforts to develop a diverse solar market that includes everything from small distributed residential systems to larger commercial and grid connected projects. In light of this, we

should expand SREC eligibility to larger scale projects and address existing interconnection barriers that do exist. Specifically we support some of the language being proposed to Assembly Bill 2529, namely the inclusion of systems for eligibility interconnected at 69 kW or less.

Secondly, we should promote a stable investment environment. The policy mechanisms from the State enablking lower priced SRECs to match the levelized costs of energy are evolving but need enhancements, particularly through improvements to the existing SREC finance programs and the addition of long-term SREC procurement in the BGS process.

We should support improvements to existing SREC financing programs and we should explore additional securitization options, specifically as I mentioned including an increase in the system size capital of the JCP&L, ACE and RICO programs to two megaWatts which will encourage full enrollment or full participation in that wonderful program.

We should continue to encourage LSE long-term contracting and of course to do so, we must set an appropriate 15 year SACP schedule that establishes clear parameters and incentives.

And in conclusion I would like to thank

the Board, staff, and all those who participated in the Energy Master Plan discussions and of course indicate that we will continue to work with all parties to ensure that the goals of the State are achieved in the most cost effective means possible.

Thank you very much.

PRESIDENT SOLOMON: Levelized cost of energy, I generally know what that means, but in this case would you please explain what that includes?

MR. SOBOLEWSKI: Levelized cost of energy includes capital cost, the system cost itself, the equipment, the cost of financing that equipment, maintenance cost, insurance costs and any fuels, in the case nuclear there is no fuel cost, of course.

PRESIDENT SOLOMON: Is that after deducting subsidies?

MR. SOBOLEWSKI: It includes the thirty percent investment tax credit from the Federal government, it does not include any other subsidies.

We typically believe that that is an appropriate comparison point, the Federal tax credit is not something that New Jersey neither the State or ratepayers pay for directly.

MR. STEVENS: Thank you, President Solomon and other members of the panel.

My name is Eric Stevens, Vice-President of the Offshore MW, by way of a quick introduction we are developing a 280 Megawatt offshore wind project in Germany, and we would welcome the opportunity to do a similar project here in New Jersey.

Given previous comments in some of the earlier meetings some of the issues we understand being thought about in revising the EMP include the following, reducing the ratepayer subsidies that don't yield direct benefits to the ratepayer. Second, using the marketplace not government to pick so-called winners and losers, and most importantly, using energy policy to advance economic development and job creation.

We support all these concepts and in fact urge a strong concentration on those areas that would yield the most in achieving these ends, particularly economic development.

Offshore wind is recognized by New Jersey as being a great way of moving forward. Offshore wind is able to help New Jersey meet its RPS goals, to be able to achieve economic development, and job creation, to being affordable and scalable, that is

to get to a sufficient size to really make a difference for the State, for the economy and the environment.

Since the last EMP the State has realized two important developments with regard to offshore wind. First, it completed a baseline study that found that we can develop offshore wind without

hurting the State's coastal ecology or economy and second, of course, is a passage of the OffShore Wind Development Act.

New Jersey should build on these two important successes, and we would like to suggest some changes to the EMP to do that.

First, we urge you to retain an aggressive and realistic goal for the amount of offshore wind installed in the State. This is absolutely essential to attract industry as it sends a signal that New Jersey is serious about offshore wind and literally means business when it comes to offshore wind.

So what is a reasonable, yet aggressive goal? If you look at Europe, where they are ahead of us by far in developing offshore wind, we think three hundred megawatts a year would be a good goal in New Jersey so if you consider the first project

might not start until 2016, three hundred megawatts a year, a reasonable but aggressive goal might be fifteen hundred megawatts by '21 and three thousand megawatts by 2026.

We would also like to urge that the EMP be revised to include some specific action that is to further the offshore wind industry in New Jersey, and I will suggest four here and provide more details and suggestions in our written comments.

First, would be to implement the offshore wind development and regulations as quickly and

efficiently as possible and by efficiently I mean it should include some sort of mechanism to allow input from all stakeholders prior to issuing regulations. This will increase the chance that the regulation is actually working for the marketplace and also address concerns that other stakeholders may have regarding the regulations, and ideally hopefully reduce the chances of being challenged on some grounds after being issued.

Second action would be to work closely with Federal Agencies to start the ocean leasing process as soon as possible recognizing that this process is already years delayed.

Third would be the continued studies of

the ecology offshore in New Jersey so that we have the best data available to facilitate efficient and good permitting of this offshore project.

And four, that we establish an initiative for the State and private industry to work together to attract manufacturing of offshore wind components to New Jersey. The projects themselves to be built three hundred megawatts a year in New Jersey, the projects themselves, the actual construction might create a few hundred jobs a year, maybe five hundred jobs a year, but where you see the really large amount of job creation is the manufacturing. We think that the developers in the State and private industry should work together to attract manufacturing to New Jersey.

New Jersey is on the verge of being the

center of the new industry here on the East Coast offshore wind. We envision that the Energy Master Plan provides the means to firmly grab this opportunity and make this new industry a reality for New Jersey.

PRESIDENT SOLOMON: Thank you very much.

Yes, sir?

MR. FENNESSY: Good morning, President Solomon, Commissioner Fox, Commissioner Asselta.

My name is Conor Fennessey and I am with the New Jersey Apartment Association. We represent the larger professional property management firms in the State. On the rental housing side, landlords typically with more than fifty units, up to ten, twelve, thirteen thousand units here in New Jersey.

The issue has come up of energy efficiency and it is an issue that you are going to be tackling in the next couple of weeks at the Commissioners and Staff levels.

As we look at energy efficiency, especially on the multi-family side, when it comes to Board history as a rate-setting entity multi-family unfortunately is neither fish nor foul because if the building is directly metered, each unit by the utility, it's considered to be a residential building.

If the building is master metered, meaning that there is one meter for the whole

property, it's considered a commercial building.
So even within our members own portfolios they can have buildings that are sometimes residential and sometimes commercial, and of course, in multi-family there are elements of

both.
So as we move forward certainly on a policy issue if you could keep in mind that there are buildings that kind of straddle both classes
The second issue on the energy efficiency side is new construction versus current buildings. You know, a '58 Thunderbird that rolls off the assembly-line in Mahwah, no matter how efficient you want to make it, it's not going to be as efficient so as to be designated as a Smart Car, you just can't do it.
As you look at the older buildings, please keep in mind that not every one is the same, whether it's in Cherry Hill, whether it's up in Ridgewood or Phillipsburg, they are all a little bit different.
When you are planning from the ground up for new construction, you can plan for it in the beginning, you can design it in, beautiful.
When you are looking at upgrades it is important to keep in mind that not every building is the same, we can't always do the same thing with different buildings, especially on the multi-family side.
We look forward to the next steps in the process. Certainly any assistance that we can

provide to the Board and Staff we would be happy to, especially as to energy efficiency upgrades, because I think that's something you are going to tackle, the old Energy Master Plan, and we look forward to the next steps in the process..

MS. HANSEN: Good morning,Commissioners.

I am Amy Hansen with the New Jersey Conservation Foundation and I appreciate the opportunity to speak to here today.

We urge the Governor and the BPU adhere closely to or crease the goals of the Energy Master Plan, to reduce greenhouse gas emission by twenty percent by 2020 and fifty percent by 2050.

There are reports in the media which point to New Jersey reducing the Societal Benefits Charge in our electric bills, reducing our Energy Master Plan goals, and legislation was introduced that would weaken the Global Warming Response Act which New Jersey implemented recently because of our agreement to participate in the Regional Greenhouse Gas Initiative, RGGI.

We are dismayed that funds that all of us in New Jersey as electricity consumers paid into our electric bills have been taken to balance the State budget and funds from the RGGI carbon options

originally for energy efficiency and other programs have also been taken for budget balancing.

With the first half of 2010 being the hottest on record, increased incidents of destructive storms world-wide and overwhelming evidence in support of climate change, now is not the time to cut back on our goals that will reduce carbon emissions, all in the name of balancing the budget.

Like Ms. Braunstein and the speaker from the League of Women Voters before me, we make a plea for our children and for future generations, and I know you have all heard that term before but it is really real; we actually as a human race I think are threatened by climate change and we need to act now.

We have already diminished the diversity of the natural world for our children's future. We can curtail our energy use and through that let's create a vibrant economy in New Jersey based on renewable energy, energy efficiency, preserving forests with funds from the RGGI carbon option.

And I urge you all to renew our commitment to a strong Energy Master Plan and to RGGI.

Thank you.

PRESIDENT SOLOMON: What is your position or your group's position regarding nuclear power?

MS. HANSEN:We don't have a position. That's not our expertise.

PRESIDENT SOLOMON: Thank you.

MR. HUNTER: My name is Farley Hunter. I am the Chairperson of the New

Jersey Large Energy Users Coalition.

I apologize in advance, I don't have my remarks formally written.

PRESIDENT SOLOMON: You are forgiven.

MR. HUNTER: There are only two areas I would like to discuss with you this morning, the first one is SRECs.

I have had personal experience with solar arrays, and I will tell you that based on our working with the State that I was able to have that solar array pay for itself in a simple payback model in four years.

I have also been looking actively at additional solar arrays and I will say that I have had paybacks, simple paybacks, in the range of five, and if you add some additional administrative costs, internal costs, it could be in the six to eight year range.

I would say that those are reasonable numbers that I have gotten from contractors and integrators.

So when I look at those numbers and I look at the fact that I as a solar operator can sell SRECs for a fifteen year period, and when I look at the increased demand for installing more solar in New Jersey, I suspect that the alternative compliance payments will continue to drive the current SREC value for some time to come, and in fact I would believe that with the power purchase

agreements that are going on the companies would expect that to continue, they would not expect a dramatic decline in SREC value and be investing at the level that they are now.

I get a lot of calls now about power purchase agreements and I believe that's driven by SREC values going out for at least fifteen years.

Given those pieces of information, I have to wonder now why the State would allow the ratepayers who are paying into the Societal Benefits Charge to continue to pay for a system well past when it has been paid off.

Even if you exclude the value of the electricity that they are getting in the offset of

not having purchased that only from the utilities, even if you exclude that, you have a relatively short payback period.

For the system that I am most familiar with I am going to enjoy eleven years of SREC value past when it has paid for itself, plus I get the electric generation for that at a very modest maintenance cost.

I have very little, solar is great in that regard, I have very little problems with maintenance.

PRESIDENT SOLOMON: Your payback, is that based on trading the SRECs on the spot market over four years, or is it based on the fifteen years?

MR. HUNTER: It's just based on four years.

PRESIDENT SOLOMON: Spot trading?

MR. HUNTER: Spot trading, yes. I trade year-by-year.

Now, I installed my system before the Federal tax credit was in place or I installed it in 2006 but I got the 2005 New Jersey rebate and then in 2006 I got the Federal tax credit, and that's why it paid for itself in four years.

Even the Star-Ledger has written articles

about how good solar is in terms of economics at the current SREC value.

So my point is that I installed a system that its cost was a million dollars and in the next eleven years I will get at least that in SREC value at the current SREC market price.

To me, that is money that I should not be getting, I will ask for it as long as it's allowed me, but I should not be getting that additional cost.

Now, you might ask, how can we monitor this? Well,I have to register my SRECs through PJM every year or monthly, some people choose to do it monthly, but it has to be registered and verified, so we have a very clear track regard of how much SRECs are sold and their value. That is all recorded, as I understand it, on the website, so the State has a ready mechanism to understand how much money has been charged.

And by asking basically how much it costs,

which we used to have to do when we got the rebates, you have to say how much the system costs, then you would have an easy mechanism to understand whether or not the six to eight year paybacks were actually occurring and whether or not we should be adjusting

the privilege, if you will, the right that the State has allowed us to go out fifteen years.

I don't think that it is appropriate for the ratepayers of the State of New Jersey, to be paying out money after a system has already paid for itself. That's what the intent was, I believe, in having set up the SREC model.

The other aspect is energy efficiency. That's all I do, is energy efficiency projects for my particular company, and the other members of the New Jersey Large Energy Users Coalition are busy saving energy and dollars for their companies as well, and we don't have to have as great rebates and so forth in incentives because there is plenty of good energy efficiency projects out 85.

However, I do appreciate and would encourage you to continue the Clean Energy Program. It is always helpful to go to your management and say that the State is willing to support in part the installation of energy efficiency equipment and systems, and I am a user and submit as many applications to the New Jersey Clean Energy Program this year and find it to be a very good way to drive energy conservation in my company.

That's what I have to say.

Thank you very much.

PRESIDENT SOLOMON: Thank you.

Is 85 anyone else that hasn't spoken?

MR. KURAN: My name is Shihab Kuran and I am the President and CEO of Petra Solar.

Petra Solar, Inc., is the New Jersey based world-wide pioneer and market leader in Smart Solar.

Petra Solar was founded in 2006 and headquartered in South Plainfield, and Petra Solar has grown from fifteen employees in early 2009 to about one hundred and fifty today.

This growth is as a result of the Garden State's progressive clean energy laws and its national leadership in the use of solar renewable energy.

We have submitted a longer statement that details several points about solar energy that I will touch upon now, including the economic and environmental benefits of solar power, the uniqueness of Petra Solar to New Jersey, and the importance of maintaining New Jersey's progressive solar energy environment in the updated Energy Master Plan and how solar power is key to making New Jersey an economic leader in the country.

Solar power is good for New Jersey's

economy. In the current economic climate efforts to reduce energy costs and create jobs are more

important than ever.

Investment in solar energy does both.Solar power is becoming more cost effective with each passing year.

Continued investment is of the utmost importance in allowing the technology to continue advance.

Solar power is cost effective; solar power is cost effective when compared to other types of energy.

Statements to the contrary fail to take into account a number of important considerations, including the negative externalities imposed by the construction, distribution and use of fossil fuels, the fact that renewables have lower operating costs and the fact that solar in many cases is cheaper during mid-day peak demand hours.

The Commissioners in California have done that in a landmark ruling when they ruled for solar, and they did that based on the levelized cost of energy: that is based on pure economics.

Solar power is a renewable non-polluting safe and clean source of energy. Solar panels

generate zero carbon dioxide emissions, thus making no contribution to global climate change or air pollution and they pose no risk of spill, melt-down or other catastrophic event.

Solar power is an important hedge against future fuel prices. Energy costs are volatile due to their dependency upon fuel prices that are

subject to substantial fluctuations.

Carbon neutral generation sources, including solar, are immune to those fluctuations.

Renewable subsidies are far less than those for traditional fossil fuels. It is a myth that reneables are the only form of energy that is subsidized. Studies, and we have the references for those, have shown that subsidies for fossil fuels total approximately seventy two billion dollars.

In contrast to renewable subsidies which amounted to twenty nine billion dollars over the same period.

PRESIDENT SOLOMON: Is that a national number?

MR. KURAN: That's a national number.

Solar power would be even more valuable when dynamic pricing is implemented , and I know

that that's a subject that is close to hearts of the new administration and the BPU and something we fully support.

Dynamic pricing will drive users to align their consumption with grid constraints and solar power will be more of a precious resource. That is an important tool in reducing energy consumption. Solar is definitely suited for that type of environment.

Solar leverages innovation. Solar has been, solar has proven that it can benefit from

significant advances in technology and will continue to do so for a considerable time.

At Petra Solar we are pioneering a truly innovative approach, it is what we call our Sunwave system, and it is designed to be installed right on existing utility poles and connected directly to the grid secondly.

This innovative system has resulted in the largest portable project and construction in the U.S. today. This real-world forty megawatt program demonstrates a proven low-risk solution to deploying renewables that has proven to be one of the most cost effective solutions for ratepayers.

Our system has received significant

interest from other regions of the United States and the world.

I can share with you that the City of San Francisco held a hearing last week looking at replicating this model. Why is this model very interesting?

New Jersey, as some of the other people mentioned, has the first or second highest income per capita in the country, we are the most densely populated State in the country so land is expensive and labor expensive.

As we look at renewable solutions we need to be cognizant that land is not cheap, it's not for free, we don't have vast deserts that are underutilized, so as we deploy renewable we need to think about assets that would accommodate renewables

that would not be expensive and ratepayers have paid for that.

In addition, through our innovation what to the untrained eye might look like solar panel on a pole, it's much, much more than that. These have built in Smart Grid radios, they are building Smart Grid communication infrastructure which would benefit dynamic pricing deployment because it is also a critical component in grid reliability

because now you can tell what the voltage is, what the frequency is, you can tell if there is an outage, you can optimize the voltage and reduce losses.

We are looking at multiple systems for the price of one. It is important to explain that the way we got there is to understand the constraints of the State of New Jersey through innovation, through a company that invested millions of dollars in New Jersey, thinking about New Jersey, inventing for New Jersey and manufacturing in New Jersey.

There was a comment earlier about solar panel manufacturing. We have been working very closely with a team out of the New Jersey DBA working tirelessly on this subject, we have been working together on attracting full supply chains to New Jersey, we would love to be able to buy solar modules in New Jersey and we are committed to it, and we would look forward to working with you and look forward to seeing the Energy Master Plan

reflective of enhancing and empowering the whole supply chain with focus on the balance of the system, not the panels or the modules, but the electronics, the semiconductors, the software, and that amounts to more than fifty percent of the cost,

which is, solar panel is less than fifty percent of the cost.

Petra Solar is poised to help New Jersey's economy grow and the environment improve. Solar brings both money and jobs to New Jersey.

We have raised fifty-four million dollars from out-of-state sources and millions more from the U.S. DOE and the New Jersey EPA.

Much of this money is cycled into New Jersey's economy by providing green jobs to State residents.

Research has shown that there is over a 6-X multiplier to an in-state's economy on the purchase of local energy technology. These numbers reflect the investment that we raise but does not reflect the revenue we have from commercial sales that is also plowed back into the local economy.

Petra Solar is helping to raise New Jersey's profile as a leader in energy innovation, it's more than just a solar company, Petra Solar is a solar and Smart Grid company.

Smart Grid is a term that refers to upgrades to the electric power grid that uses advanced communication techniques, grid sensors, information processing systems and actuators to

produce an intelligent system that enables more efficient and reliable grid operation.

In combination, solar and Smart Grid provide a benefit greater than the sum of the parts; distributed energy generation closely coupled with management and control capability provides for robust infrastructure and unique fiscal approaches.

To give you an idea, because I know there was mention of the unreliable grid in South Jersey, Here we are, deploying forty megawatts to the single largest project in the country today, without a single penny to upgrade the transmission line or distribution line. That's innovation.

I am sure that many of you are aware of the fact that many utilties say that, "I can't connect new solar because the grid can't take it."

New Jersey innovation allows the large utilities deployment without a single investment in the infrastructure, in the distribution and transmission.

Earlier this month Sandia (phonetic) National Labs awarded Petra Solar its prestigious Solar Energy Grid Integration System, SEGIS.

This contract is part of the U.S. Department of Energy's solar technologies program.

We received this contract because of the advances we have already pioneered. Petra solar's innovative

technologies and approach have successfully addressed long-standing issues connected with adding solar electricity to the energy sources utilities use to generate, transmit and distribute electricity to the public.

As the U.S. Energy Secretary explained when announcing the award, "A project like this helps to insure that efforts to advance renewable energy and support the modernization of the electrical grid are coordinated and integrated, helping to provide reliable, clean energy at lower costs."

By the way, the DOE also awarded us the Innovative Energy Award of the Year.

I should also mention that we have another sister company that Dr. Greg Olson has helped launch, and he is on the board of Princeton Power who also won prestigious awards, we have two companies out of four in the country that are in New Jersey that are innovative for the future of the grid, micro-grids and reliable grids.

The need to encourage greater innovation through renewable energy R&D investment could not be

clearer, not just to develop alternative sources of energy but also to create jobs. Innovation puts people to work.

Using my own company as an example, we have grown from fifteen employees at the beginning of 2001 to about one hundred fifty today, a ten-fold increase.

By the way, these jobs do not include installation jobs, do not include significant supply chain jobs, these are just the jobs at Petra Solar for the innovation and manufacturing.

By the end of the year we expect to grow to at least one hundred and sixty-five employees, and that investment has a multiplier effect.

I would like to note that earlier this year we were proud to host Governor Christie and Lieutenant Governor Guadagno at our South Plainfield headquarters, we were told, I believe, that they made it a point to make us the first company that they visited, that's something that we are very proud of.

During the visit the Governor congratulated Petra Solar's employees for their hard work and for being part of what he called an extraordinary new Jersey success story. The

Governor called solar energy the next frontier, saying it will help spur economic growth.

He identified Petra Solar as an example of his goal to jolt life into the State's economy by attracting and retaining successful businesses in New Jersey.

We are very proud to call New Jersey home and thank the Board of Public Utilities for its commitment to renewable energy.

I have a couple of comments that I would like to address, these are comments made earlier or

comments made in the media.

In terms of revisiting the Energy Master Plan, we believe that in order to accomplish energy efficiency goals and renewable energy goals, 85 has been a consensus by experts throughout the world that indicate that the unit cost of energy, say dollar per kilowatt hour, has to go up while we aim to lower the total cost on a monthly or yearly basis, which means we will pay more for the kilowatt hour but consume less.

How do we consume less? Through energy efficiency, through conservation, with renewable energy generation.

But if the unit energy cost is dirt cheap,

it becomes a very tough economic formula. If the unit energy cost is increased, people will be self-incentivised to weatherize their homes and install renewable energy.

The other thing we would like to highlight is, we are very much for local manufacturing and local sourcing and coupling consumption with local manufacturing.

The reference to the 6-X multiplier can go up to 11-X, by the way, in some scenarios, 6-X is kind of the median, but if we think about the following: whatever percentage, if 1 percent or 5 percent of the total cost of energy is allocated towards renewable credits, SRECs or other forms, think about channeling that money to be invested in the local economy, if the number is, say, fifteen

billion over ten or fifteen years, if we manage to invest that locally then you are getting ninety billion dollars of economic value.

I think that is an area we should revisit in the Energy Master Plan, how to create jobs. We know politically this was--in the last year or two because of the recession jobs were key to any elected officials or appointed officials, so the people spoke on jobs.

76

We have the means to channel the positive energy we have for renewable and create more jobs by focusing on local manufacturing

One last comment about the four year payback. 85 was a question asked earlier, why should anyone pay for a system that pays for itself in four years?

I would say that's an invalid argument that you have an investment that pays it back in four years. The market will regulate itself, you will have other investors who come in.

And then let's take the SREC component, which is market driven in price. If that's paid back we will get a lot more investments in solar and the SREC value will go down and the market will balance itself.

So I can possibly double my money from the stock market over a year or two, that doesn't mean that the valuation of that company will continue to go up forever, so economically it would not be a

valid argument.

Thank you.

PRESIDENT SOLOMON: Thank you.

We are going to take a five minute break and we will be back.

(Short recess.)

PRESIDENT SOLOMON: Let's get started again.

Yes, sir.

MR. WALSKI : President Solomon, Commissioners and Staff, my name is Bill Walski.

We will be submitting formal comments for your consideration so I will very quickly summarize some of the key elements that we think should be under consideration for the Energy Master Plan discussion.

Four main pillars: The first three, energy efficiency, renewables, clean central station power, form the basis of PSE&G's response to climate. The crux of those three pieces we have been talking about for close to four years now as the method and the strategy that we believe make most sense to address the climate change issues that are before are.

The fourth piece is retaining reliability and supply adequacy at a fair price for New Jersey. That includes the BGS construct, taking advantage of PJM.

And with respect to energy efficiency, three million buildings by 2020, close to three

hundred thousand a year, we have seen and with the Board's efforts in some of the filings that we have had that we are putting close to a thousand people to work in energy efficiency through two main programs, our EEE filing as well as our carbon abatement fund.

And despite all of the best efforts of everyone involved we still see folks are somewhat reluctant in doing energy efficiency. It has a wonderful payback, if you are a residential customer you are going to get four dollars back for every dollar you put into the project, and eleven dollars for every dollar that you put into the project if you are a commercial industrial customer.

What is holding it up, why are we having such difficulty?

Part of it is with the capital, clearly with the economy over the last couple of years, sometimes we need to change the investors, and I think some of the programs that have been approved by the Board have put the utilities in the role to act as the investors.

With the thousand jobs in the programs that we have, six of the eight programs that were approved in our EEE filing were in fact aimed at

commercial-industrial, we have three wildly successful programs, the hospital program which is

oversubscribed by a factor of two.

We also have, I have heard something earlier about the multi-family program we have which is also very successful.

The third piece is the government non-profit.

They are the three most successful programs that we have had thus far to date.

We would like to see those kinds of efforts continue. We think that represents the least cost method for controlling consumption and low-range demand..

With respect to renewables, the forty megawatt project that was talked about by the CEO of Petra Solar is the solar for all programs, that segement of PSE&G is the solar for all programs that the Board has approved, it is the largest in the nation, and I would like to think that the partnership between Petra Solar and New Jersey and PSE&G have helped that company branch out and look for other opportunities across the country.

Keep their headquarters here, you have heard the numbers about the way they have been able

to grow this company, we would like to see that across not just the renewable supply chain but the nuclear chain because that's the third leg we have as to what's the the most important clean central station power.

When you peel back the onion of the data received by Rutgers with respect to the assumptions

that they're going to be looking at for the Energy Master Plan, when you peel back the baseload assumptions there is considerable growth, has been considerable growth in baseload needs.

What is the most efficient and effective technology to take care of baseload needs for the State of New Jersey?

We believe that is nuclear. We are looking at that very hard. We have not made a final decision. We are exploring those options with the NRC.

When we are talking about the ability to produce carbon free power over ninety percent of the time and the jobs impact, depending on the technology that you choose you are looking at somewhere between five to seven hundred permanent high-paying jobs in the State of New Jersey, and the construction job component is on the order of

twenty-five hundred on average and close to four thousand peak construction jobs.

So we clearly believe that nuclear would have to be a component of what is in the discussion and the debate over the next round of the Energy Master Plan.

A couple of other things that I would caution you to keep in mind when we are discussing the Plan going forward.

Earlier I heard things about pull by wires and there was some reference to the

Susquehanna-Roseland project, which is a reliability project mandated by PJM.

The pull by wire analysis is the case of me saying since the tail end of the connection of Susquehanna-Roseland is at the Susquehanna nuclear station switching yard, I could say it is all nuclear, but neither of those statements are accurate.

The fact of the matter is that whatever is in the system is going to get on the wire. I would urge you to look at the queue, the PJM queue going forward. While a lot of what's in there doesn't get bullt but that's the way the system works, you've got close to fifty percent reneables,

so renewables is such a high percentage of what's in the queue, so you need to keep that in mind.

PRESIDENT SOLOMON: Would you agree that to the extent that we are importing energy into New Jersey from other places, Pennsylvania, Virginia, wherever, that we are to some extent, I would estimate a substantial extent, but I could be wrong on that, importing energy that is produced in a way that is not necessarily clean energy, it is coal, it is other sources that are not necessarily in keeping with what our goals are; would you agree with that, or disagree?

MR. WALSKI: You are getting the market-basket of the units availabe for PJM to dispatch.

If you look at the carbon dioxide signature on average in PJM, it is something like

twelve hundred pounds per megawatt hour.

If you look at New Jersey, it is seven hundred fifty, eight hundred pounds per megawatt hour, largely because more than half the energy in the State is being generated from nuclear sources.

PRESIDENT SOLOMON: I guess the answer is that you would agree?

MR. WALSKI: Yes, to a point I would agree. As we evaluate technology, whether

traditional or renewables, as we go forward, let's keep in mind when we do these analyses that a baseload plant like nuclear is going to run ninety plus percent of the time, wind or solar runs significantly less than that by three or four or five or seven, depending on how you want to view those, so we need to really in having this discussion put all that in context so that we have an apples to apples comparison going forward.

One other piece, we talked about supply chain issues.

With respect to nuclear you will find fifty companies in New Jersey that are somewhere operating in the nuclear supply chain. Wouldn't that be a wonderful thing if we could do that for renewables, if we could do that for energy effiency?

Some of the things that I've heard in the discussion yesterday and over the past couple of weeks is let's find a way to chase that supply chain and bring them over here, and I

think that that would be not only in the best interests of New Jersey ratepayers but our entire State.

Thank you very much and any questions I will be happy to respond in the continuing debate,

PRESIDENT SOLOMON: Thank you.

The gentleman in the back, all of the way in the back?

MR. PARVEY: Good morning, President Solomon, Commissioner, Chief Executive Officer and Chief Counsel of the Governor's office, Staff, my name is Ben Parvey, I am CEO of Blue Sky Power.

I want to tell you about a small New Jersey company that was founded two years ago as the world's economic markets were crumbling and it wasn't exactly the best time to start a business.

On October 20, 2008, we formed our company as a New Jersey LLC, we walked away from a Philadelphia law firm after graduating five years prior from Rutgers Law School in Camden and made the decision to start a clean energy project, development company, approximately three years prior, we worked on our business plan.

My partner, also a Rutgers grad, an attorney, worked on our business plan for about a year, followed the New Jersey policies, looked at other states, and made the decision to locate in New Jersey, obviously taking jobs out of Pennsyvania and into New Jersey for a small New Jersey company.

So in October of 2008 we formed the

company.

In November, a month later, my first son was born, and my partner, already having a two year old, walked away from his firm as well.

Within that first month of operation we had our first contract, worked on a 1.2 megawatt solar project at the Masonic home in Burlington Township, followed closely 85after by other projects including a four hundred kilowatt project at Georgian Court University.

We have done project development advisory services, drafted RFPs for Cherry Hill Township's hundred kilowatt project under State and Federal grants.

We are currently advising Gloucester Township under our new Master Plan, our new Energy Master Plan under a USDOE grant, and we have multiple other projects that we are doing, we have been hired by Aqua New Jersey to look at doing solar at their site, we were just hired very recently by Trump Resorts, we are looking to do a project at Trump Taj Mahal.

Other municipalities and school districts that we are doing projects for are a 1.5 megawatt project for the Central Regional School District in

Ocean County in Bayville.

And we are also moving across the river,

we are doing a 1.3 megawatt project at the Tioga Marine Terminal in Philadelphia and that's with a 1.2 million dollar grant from the Commonwealth of Pennsylvania, Lower Providence Towhship project in Pennsylvania, similar to Cherry Hill and Gloucester Township, under DOE grants for developing projects at the town facility as well as the schools.

The point in all this is that we are doing everything that we are supposed to be doing. We opened in the Rutgers Business Incubator in Camden, wanting to support economic development and economic growth not only within the State of New Jersey but specifically in the City of Camden because as Rutgers Camden grads we wanted to develop the City and cooperate with the goals of having private money as opposed to having State money pouring into the City.

We drive in the City every day, love being there at the EDA Waterfront Technology Center and we are now moving in two weeks out of the Rutgers Incubator up to the fourth floor to be direct tenants.

We are moving up there with an

architectural and engineering firm that we have been collaborating with on some of these projects, they do some of the renderings and designs for the projects that we are doing. Those are solar projects.

During that period of time, we are talking about two years, next month we will celebrate our

two year anniversary, since then we now have another baby who is now four months old, Henry, and my partner also now has a seven month old.

Brad, who is our EVP, is here in the back, during that period of time also has had two twins and has a five year old, another one of our partners has two children in the Cherry Hill School and a third, an eight year old boy.

We are New Jersey families working in this industry and walked away from other other businesses to start a renewable energy development company based upon the goals of the Energy Master Plan.

In talking about revising that Plan, the arguments are being made about trying to bring down those values in order to have less impact on the rate base and also the argument is being made that we are losing jobs in New Jersey because of the rate base for the Societal Benefits Charge, and if

we bring REC prices down that will then have lessened the impact on ratepayers.

I get that argument, it makes some amount of sense to make the argument, but it is not valid because at the same time you would also be losing some of the jobs that are being created specifically based on that structure that's already in place.

We exist and are developing these projects based on negotiating long-term contracts and showing net cash flows for our clients, and we are not doing just PPAs but operating leases, bond issuances for

governmental entities based on the current REC market.

You asked earlier, some are spot, some are under long-term agreements.

If you bring REC values down it's actually okay provided that the securitization programs that worked so well, the RECO program is actually wonderful, we just got two other projects, a private school in Short Hills submitted under the last solicitation, and we also submitted an affordable housing facility in Brick that hired us to develop their project, they use affordable housing tax credits.

We are also helping them use renewable

energy tax credits. We are combining some of those new market tax credits in different places in the State that qualify for new market tax credits.

We're bringing innovative finance structures to deploy capital in New Jersey.

I am flying out to San Francisco next week to meet with three different PPA providers that are doing three of our projects that are actively under development or currently under construction because those California companies are putting capital into New Jersey. I am going to meet with each of the CEOs of those companies to discuss those projects, moving them forward more quickly and to get an update on current construction of those projects.

I am in New York or D.C. once a week or every other week, I was in D.C. earlier this week

discussing different investment routes for capital into New Jersey. There is a significant influx that we're negotiating every day of capital into this State.

Some of the arguments that we are losing jobs based on having higher rates that we want to bring down somewhat by decreasing SREC prices is not a valid artment.

Under the current structure you are

creating jobs in New Jersey, you are bringing in money from out of state and even from out of the country.

One of those projects, the PPA requires, they don't deploy the capital directly, it is financed by West LV which is a big German bank. That German bank is deploying capital in New Jersey projects.

I get the argument; however, I think we are already creating jobs under the current market. If you want to decrease SREC prices a little bit, it's fine, but make sure that the ten year, seven, fifteen year securitization programs are bolstered, that they go forward and are authorized for a long period of time so we have predictability.

Having this discussion right now scares me a little bit because we are going into closings on a few different projects because some of those are load serving entities that are entering into seven year contracts and they may start getting cold feet

if they start thinking that they don't really have to supply and execute these agreements, but they are at lower prices for the contracts so that makes sense.

One other point about, I think it was made

on Wednesday about different types of RECs that encourage other types of renewables. The solar carve-out, the solar renewable energy certificate I think was a great experiment that bolstered New Jersey's program and put it at the forefront of clean energy in the nation.

Doing those programs for combined heat and power we think is absolutely wonderful. If you start having REC programs for combined heat and power and other Tier I renewabless and biomass and combined heat and power, it is going to bolster those markets as well.

So I fully support that approach of coming up with REC markets for different types of renewables because I think that's a positive step as well, assuming that's at a level that helps get those projects to get financing and built.

In conclusion, the current market in New Jersey is supporting New Jersey families and has brought money in from out-of-state, out of the country, into New Jersey, and helped people walk away from other careers to support clean eneergy in New Jersey.

Thank you for supporting New Jersey families and hopefully you will keep these programs

in tack.

COMMISSIONER FOX: Thanks for the comments. I have two questions. Lower SRECs, can you give us a sense of how that is working, because my feel of this is that you would not have all these projects except for the SRECs being out there in the market.

MR. PARVEY: I think that program is absolutely wonderful and that program is helping projects based on it.

I say that based on those projects that we submit for that, I guess we have four projects that have been submitted, the first one, Georgian Court University, locked prices at about four hundred dollars under a ten year contract, the California equity fund that's financing that project, that project would never get done without having a securitized revenue stream, a securitized revenue stream is obviously the flow of funds out of a Power Purchase Agreement, but also the ten year contract under the SREC with a utility company.

So you have underlying credit of a long-standing university as well as a utility.

Another project, the Central Regional School District, again, the contract is for four hundred for a ten year period, that project is

getting financed very similarly. Those projects would not get done without the ten year contract in

place.

For small businesses that want to invest in these projects and don't necessarily need a securitized revenue to get the projects financed, they may want to go spot market.

For almost all of our projects we deal with the institutional scale, primarily five hundred kilowatts up to multi megawatts, and those projects, you know, generally have a Power Purchase Agreement and require a contract to get done, so we just submitted for two for the upcoming round including affordable housing facilities, Chambers for its Residences in Brick, which is an outstanding affordable housing facility that does very well in Brick, and they are going to own and operate it, they have positive cash flow and have a surplus, they are going to finance it themselves, but they want to be in that program because when going and closing on financing they would rather show a ten year cash flow with securitizing.

It's really effective. I don't know why there would be any problem getting projects in it, but we will put all of the projects that we can into

it.

COMMISSIONER FOX: Do you have anything to say about the SREC prices now, why they are there, do think they are going to come down over the next five years; what are your thoughts?

MR. PARVEY: Well, SREC prices are where they are now based on the SACP, so it is legislative

and regulatory, the reason those prices are where they are.

They seem to be fluctuating, I mean obviously we are going to be closing on financing for some of these projects, and as folks are conducting due diligence from afar, you know, a bank in New York or an equity fund in California, and they are asking for my analysis on the REC market and at any given time based upon different requirements of people who have to comply with SACP, you know. sometimes they are higher, sometimes they are five hundred and sometimes they are nearly six hundred.

They may be high but, again, for most of the projects to get done there is--we run thirty year pro formas on our projects, we generally tell people how they can finance the project, whether it be through tax exempt bonds for governmental, clean

renewable energy bonds, operating leases, power purchase agreements.

In those cash flows we show them a conservative approach of what REC prices are generally discounting them significantly, but there is a place at which projects work based on the current pricing of the systems and labor. That price is approximately in the mid to really high three hundreds to the mid-four hundreds, that's why I say a ten year project, they allow projects to get financing and still allow investors to get their

yield or allow adequate debt coverage for people who are self-financing.

So there is a very specific range in which SREC prices can be to allow projects to get financing, it's not in the six hundreds, so, yes, they can come down, I hate to say that because people in the industry may get annoyed with me, but to be truthful, there is a range at which SREC prices could come down to get institutional scale projects done and that really is in the high to mid-three hundreds to mid-four hundreds.

Thank you.

PRESIDENT SOLOMON: Thank you.

Yes, sir?

MR. TITTEL: Thank you, Mr. President.

I am Jeff Tittel, Director of the New Jersey Sierra Club.

I just want to start out and say that we are glad to be here to testify and we will be submitting written comments.

I think what comes out of this process will have a lot to do in shaping the future of New Jersey. Energy policy is something that can also grow our economy, create very good jobs, while protecting the environment, and it has collateral benefits, not only do you help lower our carbon footprint through a strong Energy Master Plan that promotes energy efficiency but you also deal with a lot of collateral pollutants like mercury and nitric oxide and many others.

But the important part of it is that this should be our future, that the jobs that we can create by having strong goals for renewable energy as well as using energy efficiency are really the key to our economic growth in the future.

It does two things besides providing for technological innovation, what we are seeinng happening is that all over New Jersey there are a lot of companies coming in and doing that, New

Jersey is one of the top states in the country in attracting venture capital for solar energy.

But we do have deficiencies, we have not created enough manufacturing jobs, and I think that's something that we really need to work on.

As people know, one of my biggest frustrations has been that if you look out of the window here you can see the Gamasa (phonetic) plant in Pennsylvania that should be on this side of the river.

I think as we go forward we must maintain goals for renewable energy and add the new technologies as they become more available such as geothermal, micro-hydro and others.

We also must work for a more robust Class II because those technologies will help encourage baseload until renewables can meet enough baseload.

We believe that off-shore wind is the most cost effective available form of renewable energy. The further out we go the more sustainable the winds

and, therefore, the more off-shore winds become baseload. We do not have energy storage systems yet and some of the other things that we need, so it's critical then to make sure that the Class II's are robust and combined heat and power, of course, is a

part of that.

Last week I got to testify, not testify, but speak in front of the Chemical Council, the point that I went there to talk to them about was energy and the high cost that they pay.

And one of the things that a lot of those facilities already have is the ability to combine heat and power, the ability to add to their ware-houses and other facilities solar and develop wind because many of them are in coastal areas. So one of the keys for economic growth in this State is through renewable energy. It's also a way of helping our major industries to get off the grid and become self-sufficient. In fact many of them could produce extra electricity into the grid which will not only lower their energy costs but give them an extra source of revenue.

And that's why it is so critical that we maintain strong goals in renewable technology.

We also believe that energy efficiency is critical. It has not been as robust as we had hoped. Hopefully as the budget situation improves that the funds that were originally allocated to go into those areas can then go back into those areas to help create new jobs because, again, It not only

creates jobs but it also encourages a lot of private investment.

When someone buys a high energy efficient furnace they put most of their own money into it and then they get a rebate, and when people put energy efficiency into their homes they get small grants and they add a lot of their own money, and that also increases the value of their homes.

We have great potential in this State and the Energy Master Plan is really the guiding renewable light in that direction.

We also have some concerns. One is that we believe that nuclear power, given its extremely high cost and its extremely long timeframe to build, should not be an option. We have existing facilities and they should be here for as long as they can be licensed and be safe, and I think for many of them that's a long time, but we should make sure when we look at nuclear power as an option that we understand the cost and how long-term it will be to build a facility.

The facility being built on the eastern shore of Maryland is fifteen hundred megawatts, and it's gone from ten billion to fifteen to seventeen and now it's close to twenty billion dollars to

build, and it's behind schedule.

We also know that because of the demand

world-wide, in China where they are building nuclear power plants there is a long-term backlog to get that type of steel. The only steel mills that actually build that type of steel are in Korea and Japan and they have a five to ten year backlog, depending on the type of steel you are looking for, plus the time it takes to build.

So you may go down that path but you will find out that it is takes fifteen to twenty years to get a plant like that on-line, and with cost overruns it wouldn't be cost effective, and that doesn't include some of the nuclear waste issues and some of the other issues that are also of concern and the fact that they want to fill in hundreds of acres in that process.

We also believe that as part of moving energy forward in this State we need to overcome a lot of regulatory hurdles, we have to be very critical of the DEP's new coastal rules which make it easier to put a casino on a pier than a windmill and block many important parts of the State from reneable energy.

We have tremendous assets in New Jersey

when it comes to wind and solar and we need to make sure that we can really get these things done.

Again, I think we need to look at where we are economically and realize that this is the way that we can grow our future.

When it comes to generation we have a lot of potential with renewable and combined heat and

power. One of the concerns I do share with the President is that many of these lines that are coming in from the West that are being proposed will be bringing in dirtier power. There was a FERC meeting in West Virginia in two 2005 where they actually said that we need to bring more lines in the East so that we can sell coal power from here over there, and on the back of the western end of the Susquehanna-Roseland line there are actually proposals for two coal plants which the Sierra Club is fighting there, I think we're going to stop them, but that is a real concern.

Also many of these lines are going to become pass-throughs, that is they are not really going to help to insure New Jersey's energy future but York and Long Island.

We also need to take an overall look at natural gas. Currently, and the Sierra Club is a

big supporter of gas, we think it is a gap fuel until the renewables may be in full place twenty or thirty years down the road, but it will be around for a long time.

Currently there are proposals for numerous gas lines, LNG, and the question that we have is that we really need to figure out what facilities are necessary to meet New Jersey's and the region's needs and not to have a lot of speculative lines coming forward or proposals coming forward that will undermine our energy goals and actually end up

hurting our long-term energy needs, because if there are five or six gas lines coming in, and we don't need that much gas, the region does, what happens? Three LNG proposals, do we need any of them if we have so much domestic gas?

I think that's what we have to look at as part of this plan, to try to target and understand what do we need and how do we get there?

In conclusion I think that hopefully as you do a reexamination of the Energy Master Plan you look to strengthen it, add new technologies, come up with recommendations to actually help make renewable energy more viable, help encourage combined heat and power so that we can grow our

economy and long-term lower our energy costs because, again, with renewables long-term they will be cheaper because we are not buying fuel everywhere, and make sure that we have a sustainable economy to protect our environment.

Thank you.

PRESIDENT SOLOMON: Thank you.

Let me just ask, there have been a lot of advocacy comments this morning, and what we really need for the Energy Master Plan is information. I know that there are a lot of people that are representing advocacy groups, and we understand the advocacy positions, we get the advocacy and get the positions and what they advocate for, but what we need is the information that will lead us to the conclusion that we want to reach; advocacy is useful

but it's not what we need to develop the Energy Master Plan. I throw that out as a caution.

If you have some information that you can give us, please come up.

MR. YAPPEN: My name is Scott Yappen. I don't belong to an advocacy group, I can hardly say that, and I hope that I can provide some information.

I represent no particular group, but

certainly I'm with those who are pro combined heat and power, for those programs that stimulate CHP.

My professional experience is that I work for Veolia Energy North America based out of Trenton, Veolia is the world's largest district energy cogeneration owner and operator, and we provide thermal energy in downtown Trenton, for example, with also district energy plants in Philly, Boston, Baltimore and hundreds more around the globe.

Previously I worked for the Caterpillar dealer in Piscataway, Foley Caterpillar, they are in the business of providing advanced reciprocating internal combustion engines and gas turbines.

They I worked on several one to ten megawatt combined heating and power projects designed and installed during my six years in New Jersey, for example, major pharmaceutical manufacturers in New Jersey, hospitals, Landfill Gas to Energy, and one of my favorite, Davis Energy,

I also facilitate a link-pin.com group called New Jersey On-Site Power and Distributive Generation which many in this room are members of and who voice their opinons there. I strongly recommend that to anyone who is interested in

learning more about this.

We need to return to programs no longer available such as the BPU Retail Margin Fund which saw the removal of sixty million dollars for CHP.

There is an eighteen million dollar ARA backed program that just came into New Jersey through the EBA, which is great. Unfortunately, that's about it.

So we don't have REC type programs, but we should.

And I want to give some information just based on CHP that might be of use to you just from my background.

CHP when compared with business as usual offers incredible supply side energy efficiency, carbon footprint and greenhouse gas reduction and it stimulates job retention in New Jersey.

CHP is also known as cogeneration, combined heating, cooling and power, for example, combustion turbines and reciprocating engines, fuels, biomass, biofuels and other fuels are used for these projects.

CHP is an energy supply side alternative for New Jersey facilities to augment the consumption of utility electric power and on-site heating and

cooling, which is typically only about forty to fifty percent energy efficient combined and has a large carbon footprint, for example, for those power utilities that are providing coal produced power.

CHP and other distributive generation supply side technologies like solar and wind, which I applaud as well, I think it is great, I think there should be a mixed bag; I think maybe you noticed that already.

We reduced the need for low energy efficient and high air polluting power plants with CHP. CHP emissions are well within the New Jersey DEP requirements for carbon monoxide, air pollutants, et cetera. There are well defined rules that we have to meet on each one of these projects.

I believe the air pollution issue is important, but it is limited based on the emissions reduction technology that we are able to use at these facilities.

CHP offers very low installed cost when compared with other technologies that have been spoken about today, low cost when compared with alternative renewable sources like solar and wind. For example, CHP can be designed, engineered and installed, et cetera, for less than two dollars a

watt or two thousand dollars a kW.

I think someone earlier today mentioned

projects for five dollars a watt for solar, just as an example, but I'm not an expert on what other technologies cost, but I do know that CHP is low on that.

Energy savings from CHP plants, they have traditionally an R.O. line five year period or less, and extremely less if we're able to return some of the incentive based grants, loans that have been available in the past.

CHP nurtures private side investment. I'm not sure of the exact amount, but I have seen many different estimates that for every one dollar of public investment in CHP there is over five dollars of private side investment. I think that's an important differentiator for CHP versus other technologies.

CHP offers direct job creation, set securitization, retention, whatever word you want to use, with temporary jobs in construction, pipe-fitters, electricians, engineers and other contractors, but more importantly, permanent jobs like plant operators, like we have here in Trenton, maintenance and other support personnel.

Indirectly, jobs are created, CHP generates energy savings for those facilities that operate them and they are able to retain those jobs here in New Jersey and offset the high cost of energy that causes them to make decisions to move away from New Jersey.

Also equipment used to produce power in

thermal generation plants are often times products made in this country. For example, Caterpillar makes everything in this country as do many other companies. I heard the mention of Chinese manufacturing earlier; I'm getting very tired of reading about almost everything I buy, "Made in China."

I applaud New Jersey for its emphasis on alternatives, I think CHP is a great option alternatively for business as usual to bridge our energy future going forward, especially in the next ten years when we have a lot of problems with cost per kW alternative technology.

I think we have given it a good run here in the last few years with incentives for other renewable technology. I think now is the time for combining heating and power.

It makes sense to continue the EDA, BPU

and other programs as to CHP and I encourage you to be a champion for CHP going forward.

COMMISSIONER FOX: Can you give us some values as to combined heat and power, If you have any documents would you please submit them?

MR. YAPPEN: Sure.

MR. JUNG: Good morning, President Solomon, Commissioner Fox, senior Staff of the BPU for the Energy Master Plan.

My name is Michael Jung, and I'm the Director of Public Policy for a company called

Silver Spring Networks.

We provide Smart Grid technology and services for utilities that serve one in five U.S. households today.

We have heard a lot over the past few workshops about all of the things that people want, we want to reduce greenhouse gas emissions to address climate change, we want to keep our renewable program active and maintain leadership in solar and off-shore wind, we want to increase our energy efficiency, and we want to do it in a way that addresses both demand-response, to reduce the peak capacity requirements, and we want to do it in a way that engages consumers.

Engaging consumers, I would encourage, is an underestimated resource. There are only so many things that you as government officials can do. Engaging consumers to pick up the rest of the slack, to become active participants in the energy system I believe is a valuable option that you ought to consider.

One of the things that you haven't heard about is that electric vehicles are on the way, and that the electric system today is poorly equipped to address that.

PRESIDENT SOLOMON: We have heard that.

MR. JUNG: You have heard that.

We know that New Jersey needs to remain a competitive state economically, and reliability is a key factor in that equation; maintaining an electric

system that is there when you need it and is as reliable as it needs to be is first and foremost.

At the end of the day, as you are well aware, jobs is what is at stake, creating an environment, an infrastructure that is reliable and affordable is what's at stake.

What I would encourage you as a common thread to acknowledge between all of these different ends is that there is a common thread, a common

platform and foundation between all of these, and that is the Smart Grid.

The Smart Grid as a technology platform enables all those things to be done and be done together as opposed to separately.

Sure, you can do meters and you can have Smart Meters and you can have an LCD display and someone can walk outside and read it, but what good is an LCD display if you still have to walk outside in the cold?

With a communication network that enables that information to be communicated back to the utility, and perhaps even more importantly, made accessible to the consumer so they can see it on an in-home display or through some sort of consumer web portal, turns that data into useful information.

And that same communication platform if it is built on open and inter-operable and above all secure standards sets us up with a foundation to which we can connect distributed generation,

electric vehicles, energy storage, automated switches and to improve our reliability and all manner of other technologies that today are largely manually operated analog and electro-mechanically.

I would advocate that the Energy Master

Plan consider the Smart Grid as a part of New Jersey's energy future, to do it built on open, inter-operable and secure technology to make sure everything can be connected and to do it in such a wait that engages consumers to become active rather than passive participants in our energy future.

PRESIDENT SOLOMON: Thank you.

MR. JOHN: Good morning. My name is Anna Selvan John.

My entire life I have been doing solar. I have two Masters, one PhD. I have spent a lot of my time in New Jersey working on solar so I have a lot of experience in various aspects of solar, but there is something very significant in New Jersey that needs to be considered.

Last week there was a research report which has come out which showed that in 2050 five thousand gigawatts of energy is going be used from solar, which is ninety percent of the whole production-- excuse me, sixty percent, so it's getting stronger and stronger with solar, as to all of the clean energies solar is incomparable, it is really clean power, but I think most of us know that.

There are two major technolgies being used

for solar, and both of them are in New Jersey, but none of the companies that produce panels are in New Jersey, that's a sad fact. The third generation of solar panels are manufactured in Switzerland.

In 2005 we started a company here called NanoPV with the hope of making, manufacturing right here. The reality is the difference in the cost is so big so we have to depend on manufacturing in other countries other than in New Jersey.

It is that.

It is vital that the manufacturing be done in the U.S. but we don't know how to do it. If you take any solar system, more than sixty percent of the cost involved in the solar system is the solar panel itself, but that's not done here.

So the real people who are working on solar are not here, you make policies on SRECs, but they are not going to be here.

So we started in 2005 because it is very convenient here and today we still have to depend upon our Asian manufacturers.

So what should be the solution for that? I know that there was some incentives in the SRECs, but it is easily -- I mean the cost of manufacturing in Asia is more than sixty cents per watt less than

what we are making in New Jersey.

But as we observe in other countries what

is happening, in Canada in Ontario they ask for forty percent local contracts if you have a solar system, in Thailand, Taiwan, the Asian countries, it's one hundred percent in their own countries.

I just spent the past few months in India. India has around twenty gigawatts of solar power program, but all the panels should be made in India, so they have no connection with the rest of the world.

It is not only India, it's happening in many other countries, so it is too big to ignore, the manufacturing should be happening here, and there is no compromise about that. It doesn't have to be expensive. In fact, the cost of solar system today, what we have in the United States is double the cost of what we have in other countries so it is artificial.

If we do the manufacturing here the cost will come down dramatically, so it's something to consider.

I have not come here, this is my first time, but when you make the policy it has to be good for people who can do that kind of thing.

So the major portion of the cost of solar panels is the manufacturing, and New Jersey deserves that kind of manufacturing here.

PRESIDENT SOLOMON: Thank you.

Yes, sir?

MR. OLSEN: Thank you.

My name is Greg Olsen, I do venture

capital investing in Princeton, New Jersey and I would like to give you just a brief informational download of three of my companies that have benefitted from solar energy.

Princeton Power makes converters for solar wind and Smart Grid applications, they spun out of Princeton University.

Power Survey Corporation up in Kearny spun out of Sarnoff, they do contacted stray voltage detection to keep cities' streets safe.

And finally United Silocon Carbide spun out of Rutgers to make the next generation of power transistors that will enable Smart Grid.

These three companies are all New Jersey companies and they work very closely together.

Sadly, I am not an investor in Petra Solar but I am a board member of the company.

These four companies have something in

common, they are highly successful New Jersey companies. They have done really well in the solar realm. They have brought in over ten million dollars of Federal funding together and that number probably will increase.

My companies alone added about one hundred jobs this year, and I expect next year that number to go to two hundred or even more in terms of growth.

So, you know, I would just like to put that out as information, that by being in the solar

arena the companies are doing really well.

I would also like to ask the BPU to continue your investment in infrastructure.

Power Survey Corporation dramatically reduced the number of hospital reported shocks, New York City is using that service and it has greatly increased the safety in the City of New York and we would sure like to see that here.

Thank you very much.

PRESIDENT SOLOMON: Thank you.

Anybody else?

Yes, sir.

MR. GILLMAN: Thank you for the opportunity.

My name is Paul Gillman, Chief Sustainability Officer for Command Energy in Fairfield, New Jersey.

I don't envy you your jobs, you are looking for power production technology that's low carbon or no carbon or in a perfect world reduces power.

You are looking for technology that has a smaller footprint in wind or coal or nuclear, you are looking for one that doesn't just produce tens of jobs but maybe thousands during a construction and operation period.

You would like it to be renewable and you would like it to be baseload, you would like it to be probably among the least subsidized power sources there is.

In fact New Jersey is the home to a technology that does all those things and was an early-on leader in that technology, although it has fallen away, electricity from municipal solid waste.

You would like to think that that technology is being promoted elsewhere. In fact it is in the E.U. and Asia, that's where my company is doing most of its growth.

We would like to think, too, that it's a technology that's clean; researchers at the US EPA will tell you that it is cleaner than coal, cleaner than oil, competitive in its cleanliness with natural gas.

So all those things are attributes that I was very encouraged when I came to New Jersey two years ago from a think-tank at Oak Ridge National Labs that New Jersey was well aware of in fact the strategic plan in its draft form that recognized that this is a technology that could produce electric and reduce greenhouse gas.

Unfortunately in its final version it downplayed this technology.

I urge you to look once again at this technology, consider the greenhouse gas benefits, the environmental benefits and the jobs benefits that go with its promotion.

COMMISSIONER FOX: Would you provide us with information and comments very specifically as

to the strategic plan for this technology?

MR. GILLMAN: Sure, I will send you the references.

MR. SOBOLEWSKI: I would like to offer some additional points, some additional testimony with

respect to SRECs.

First of all, I have some data on where the SREC market is currently trading. we know from exchanges out there that are publicly available from the exchanges as to SREC trading that the spot market for SRECs is currently in the neighborhood of six hundred forty dollars to six hundred and eighty dollars.

We also know from BPU reporting that those trades make up about two-thirds of the market today. The other third is made up predominantly of long-term contracting and, again, the BPU reporting shows that the average SREC price on other than spot trade is about three hundred and seventy-three dollars, consistent with the four hundred dollar long-term SREC contracts we see in the JCP&L, ACE and RECO programs.

I think what this shows is that there is a very clear dichotomy in the market between what happens with long-term trades and short-term or spot trades.

With regard to supply and demand in the SREC market, a few important data points: As I mentioned earlier in my testimony, there are about two hundred megawatts currently installed, one

hundred and ninety-seven is the exact number that I saw in the last report.

We have been averaging over the last few months about eight to ten megawatts of additional installed monthly capacity.

The 2011 obligation in the RPS is the equivalent of about two hundred and eighty-five megawattes of capacity.

Simple math will show you that even on the low end of our installed monthly range, eight megawatts a month, that's about another hundred megawatts, and we would be in the neighborhood of three hundred, which would be in close proximation to the obligation for 2011.

There is some other math and timing behind that, of course, but the broad point is that we do expect the market to be generally balanced in the very near-term, and I think that a generally balanced market will not support spot trades in the neighborhood of what we have seen historically.

It is our opinion and our position that it's the market that will set SREC prices, not the ACP. The ACP is not a cost-containment mechanism, it is in fact an incentive to encourage long-term contracting, and the lower the ACP the less there is

that incentive, the less LSEs are encouraged to enter into those affordable long-term contracts.

As I share those points with you, I appreciate the opportunity to appear here.

Thank you.

PRESIDENT SOLOMON: Anybody else?

MR. PRINGLE: Thank you, President Solomon.

My name is DavId Pringle, I'm the Campaign Director for the New Jersey Environmental Federation.

I want to thank the Board and to just make clear that there will be a public draft of the revised Plan and there will be a public process as to that. Thank you.

I hope that it does have, I don't expect it to have every little nitty-gritty detail, that that it won't just be conclusions but some of the bases for the conclusions.

And I understand today you want data and not conclusions, and we will be following you up with a lot more, but most of the data you need isn't from advocates out here, it is within governmental agencies that already exist; for example, the EPA already has the formulas that can tell you,

obviously they are projections, they don't know for sure, but, roughly, if you do this with the coal plant versus that with the coal plant that means this would have an impact on premature deaths and illnesses, lost work days and sick days that you have to stay home taking care of the kids because they're sick or whatever.

In fact the Clean Air Task Force just looking at one pollutant's particulates came up just two weeks ago with coal plant by coal plant data for every coal plant in the country, what the impacts were if they put in modern controls and equipment, and I'll get you that website, it contains credible information.

They even have that on a Google map so that you can go to a particular coal plant and see what the impacts are, there are very specific numbers on if you do this it means thirteen less people die form this coal plant, if you don't do this it is going to cost four more million dollars in health care.

Our main thing here is that there is an uneven playing field, that you are comparing apples and apples to oranges and oringes as best you can. There are many things that are subsidized, some of

which are more transparent than others.

Coal is subsidized because of the indirect cost on health care which isn't reflected, the nuclear industry is subsidized because of the Price-Anderson Act, everybody in here is the insurer of the nuclear industry. That is a massive subsidy that should be factored in when we are comparing nuclear to coal, to gas, to renewables and incineration.

We are extremely confident that when a true, fair cost benefit analysis is done,

renewables, combined heat and power, efficiency, wind, garbage incineration, nuclear and coal lose.

When you look at the whole life-cycle, sure, if you are only looking at, "Hey, I've got this garbage, what am I going to do with it?" that's not the whole life-cycle. What else could you do with that?

It's cheaper to recycle than it is to mine bauxite ore. People are now mining old landfills for aluminum because that's cheaper than mining bauxite ore.

If you look at the amount of water and energy and raw materials used when you burn, because when you burn it's gone, you have to now use more

raw materials, it is much cheaper on all those fronts to recycle, reduce and reuse.

And also when you do that, what is left isn't burnable anyway, so you have to re-engineer things and put it in the landfill, what have you.

So we will get you more information. The EPA and the EEC has great modeling on a lot of this stuff and we will get you more information and look forward to seeing you again.

PRESIDENT SOLOMON: Thank you.

Anyone else?

(No response.)

PRESIDENT SOLOMON: I think that's it, I don't see any other hands up.

I will adjourn this meeting and transcripts of the last two meetings should be

available on our Web site in the next few weeks.

Thank you all for coming, thank you for your comments and thank you for getting this done in a reasonable hour.

(Adjourned.)

C E R T I F I C A T E

I, William Sokol, Certified Shorthand Reporter of the State of New Jersey, License No. 30X100030700, and Notary Public of the State of New Jersey, do hereby certify that the foregoing is a verbatim record of the testimony provided under oath before any Court, Referee, Commission or other body created by statute of the State of New Jersey.

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