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# *Committee Meeting*

of

SENATE ENVIRONMENT AND ENERGY COMMITTEE

ASSEMBLY TELECOMMUNICATIONS AND UTILITIES COMMITTEE

*“The Committees will meet to hear testimony from invited guests and the public on strategies to prevent the premature retirement of existing, licensed, and operating nuclear power plants”*

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

**DATE:** December 4, 2017  
10:00 a.m.

**MEMBERS OF COMMITTEES PRESENT:**

Senator Bob Smith, Chair  
Senator Linda R. Greenstein, Vice Chair  
Senator Richard J. Codey  
Senator Christopher “Kip” Bateman  
Senator Samuel D. Thompson  
Assemblyman Wayne P. DeAngelo, Chair  
Assemblyman Benjie E. Wimberly, Vice Chair  
Assemblyman Joseph V. Egan  
Assemblyman Eric Houghtaling  
Assemblywoman Eliana Pintor Marin  
Assemblyman Andrew Zwicker  
Assemblywoman Gail Phoebus  
Assemblyman Brian E. Rumpf



**ALSO PRESENT:**

Richard Diaconu  
Judith L. Horowitz  
Tara M. Howley  
Matthew H. Peterson  
*Office of Legislative Services*  
*Committee Aides*

Kevil Duhon  
Francisco Maldonado  
*Senate Majority*  
*Committee Aides*

Glen Beebe  
Rebecca Panitch  
*Senate Republican*  
*Committee Aides*

***Meeting Recorded and Transcribed by***  
**The Office of Legislative Services, Public Information Office,**  
**Hearing Unit, State House Annex, PO 068, Trenton, New Jersey**

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BOB SMITH  
Chairman

LINDA R. GREENSTEIN  
Vice-Chairwoman

RICHARD J. CODEY  
CHRISTOPHER "KIP" BATEMAN  
SAMUEL D. THOMPSON

JUDITH L. HOROWITZ  
Office of Legislative Services  
Committee Aide  
(609) 847-3855  
(609) 292-0561 fax

MATTHEW H. PETERSON  
Office of Legislative Services  
Committee Aide  
(609) 847-3855  
(609) 292-0561 fax

## New Jersey State Legislature

SENATE ENVIRONMENT  
AND ENERGY COMMITTEE  
STATE HOUSE ANNEX  
PO BOX 068  
TRENTON NJ 08625-0068

### COMMITTEE NOTICE

TO: MEMBERS OF THE SENATE ENVIRONMENT AND ENERGY COMMITTEE

FROM: SENATOR BOB SMITH, CHAIRMAN

SUBJECT: COMMITTEE MEETING - DECEMBER 4, 2017

*The public may address comments and questions to Judith L. Horowitz or Matthew H. Peterson, Committee Aides, or make bill status and scheduling inquiries to Pamela Cocroft, Secretary, at (609)847-3855, fax (609)292-0561, or e-mail: OLSAideSEN@njleg.org. Written and electronic comments, questions and testimony submitted to the committee by the public, as well as recordings and transcripts, if any, of oral testimony, are government records and will be available to the public upon request.*

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**The Senate Environment and Energy Committee and the Assembly Telecommunications and Utilities Committee will meet jointly on Monday, December 4, 2017 at 10:00 AM in Committee Room 4, 1st Floor, State House Annex, Trenton, New Jersey.**

The committees will meet to hear testimony from invited guests and the public on strategies to prevent the premature retirement of existing, licensed, and operating nuclear power plants.

Issued 11/29/17

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Chairman

BENJIE E. WIMBERLY  
Vice-Chairman

JOSEPH V. EGAN  
ERIC HOUGHTALING  
ELIANA PINTOR MAREN  
ANDREW ZWICKER  
GAIL PHOEBUS  
BRIAN E. RUMPF

RICHARD DIACONU  
Office of Legislative Services  
Committee Aide  
(609) 847-3840  
(609) 292-0561 fax

TARA M. HOWLEY  
Office of Legislative Services  
Committee Aide  
(609) 847-3840  
(609) 292-0561 fax

**New Jersey State Legislature**  
**ASSEMBLY TELECOMMUNICATIONS**  
**AND UTILITIES COMMITTEE**  
STATE HOUSE ANNEX  
PO BOX 068  
TRENTON NJ 08625-0068

**COMMITTEE NOTICE**

**TO:** MEMBERS OF THE ASSEMBLY TELECOMMUNICATIONS AND UTILITIES COMMITTEE

**FROM:** ASSEMBLYMAN WAYNE P. DEANGELO, CHAIRMAN

**SUBJECT:** COMMITTEE MEETING - DECEMBER 4, 2017

*The public may address comments and questions to Richard Diaconu, Tara M. Howley, Committee Aides, or make bill status and scheduling inquiries to Kimberly Johnson, Secretary, at (609)847-3840, fax (609)292-0561, or e-mail: OLSAideATU@njleg.org. Written and electronic comments, questions and testimony submitted to the committee by the public, as well as recordings and transcripts, if any, of oral testimony, are government records and will be available to the public upon request.*

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**SENATOR BOB SMITH (Chair):** We have a lot of work to do.

And our hearing-- Chairman DeAngelo and I both requested the larger room because we know of the interest in the topic.

The hearing today is three hours; we're finished at 1:00 p.m. And the reason we're finished at 1:00 p.m. is because there's another Committee coming in at 1:00 p.m., all right? And I think we can, pretty much, get the issues associated with the topic on the record in those three hours.

We have a court stenographer (*sic*); everything you say can and will be used in the event of a trial. So be careful what you say.

In addition to that, let me remind all the members that everything you say today, whispering even to your colleague, is being recorded. There are two sets of microphones here; so be careful what you say, all right? This is the modern technological age.

In order to put the topic in perspective, I asked OLS to give us a really short description of it. And I'm going to read that to you. And by the way, this is like the last thing I'm going to read, and it's the only thing the Chairman and I want read. Everybody's written statements will be given to the members, and they will be included in the stenographic record. But if you're coming up here to read something, we're going to chase you out. Tell it from your heart; tell us orally what you're trying to say. Be succinct; there are a lot of people who took time out of their day to be here today, so let's get to the point.

In any case, Judy Horowitz, a Principal Counsel in OLS-- I said, give us a little quick summary of the challenge before us. And what

she said is, “In New Jersey, and other states, where power is sold in a wholesale open market, the operators of nuclear power plants are facing economic challenges. A number of nuclear power plant operators have prematurely retired plants before their operating licenses expire because the market price of power has dropped below the cost to operate the nuclear power plants.

“There are currently 99 nuclear power plants in the United States, which provide 20 percent of domestic power generation and 60 percent of the carbon-free generation. Since 2013, six nuclear power plants have closed in the country, and eight are scheduled to close by 2019. In addition, four nuclear power plants are scheduled to close by 2025.

“The Nuclear Energy Institute has indicated that another 15 to 20 nuclear power plants are at risk of closing prematurely due to their inability to compete in wholesale electricity markets.

“A number of reasons can be attributed to the inability of nuclear power plant operators to compete in the market. Financial experts estimate that, nationwide, nuclear power plants are losing \$2.9 billion per year collectively. Those losses are a revenue issue. Realized power prices are \$20 to \$30 per megawatt hour; while the operating costs for a nuclear power plant are approximately \$35 per megawatt hour, and even higher in New Jersey. The higher cost of nuclear generation relative to generation from other power sources is attributable to the high cost of regulation, operation, and maintenance of nuclear plants compared to the current low prices of fuel and operation for gas and coal plants.

“Power prices are currently low because the price of natural gas has dropped due to robust production and supply. Further, there has been

low growth in electricity demand since 2007. Net electricity generation has decreased in three of the last five years, and remains lower than in pre-recession years.

“Certain Federal tax credits have also led to periods of negative pricing, notably in the Midwest and Texas, where power generators have had to pay the grid to take their electricity. This places a strain on nuclear plants because they cannot be turned off at periods of low demand. State and Federal energy incentives have driven the growth of renewable power in the form of state renewable portfolio standards and Federal tax credits.

“There are certain benefits to nuclear power. Nuclear plants provide a reliable source of electricity, as there are infrequent refueling requirements, and they generally operate at approximately 92 percent capacity because they cannot be easily shut down and restarted. In addition, they provide carbon-free power, meaning that they do not contribute to greenhouse gases or air pollution.

“In contrast, natural gas and coal-fired plants emit carbon; and gas-fueled plants are subject to disruptions in supply as they cannot maintain large amounts of fuel on-site. The prices for electricity generated from natural gas are also extremely dependent on the price of natural gas, which is subject to significant price volatility. Because the fuel price for natural gas plants comprises the bulk of their costs, their energy prices are extremely dependent on the market price of natural gas. In contrast, for nuclear power plants, their largest cost is operation and maintenance, which remains fairly constant.

“Solar and wind energy does not have the reliability that nuclear power has, as it is weather-dependent and not easily stored.



“In New Jersey, roughly 50 percent of the electricity used in the State is generated by nuclear power plants. Nuclear power plant operators have warned that if the supply from nuclear plants is removed, electricity prices will increase in New Jersey. They have also argued that nuclear power plants are undervalued, because they produce carbon-free electricity and the needed fuel diversity crucial to the reliability of the power grid. Finally, because of their cost structure, their prices are less subject to market forces and, therefore, less volatile.

“New York and Illinois have passed legislation to prevent the premature retirement of their nuclear power plants.”

And then Judy says, “I have attached a report from the National Conference of State Legislatures that presents the issues in greater depth and describes the legislation that has been adopted in New York and Illinois.

“And if you have any questions, call--”

And Mr. Chairman, with your permission, I’m going to enter into the record the booklet that is prepared by the National Conference of State Legislators entitled *State Options to Keep Nuclear in the Energy Mix*. It’s a terrific read, for those people who like that kind of stuff. It’s a really terrific read, and I hope every member on both Committees will have an opportunity to read it because it will help to further inform you on the topic.

The Chairman and I talked about what we want to accomplish today, so let me mention the objectives of today’s hearing.

Number one, the economics of the electric power production are so very complicated that our Committees will use this testimony to

educate ourselves on the power market. Number two, we need to understand the importance of nuclear power to this state. What does fuel diversity mean; how does nuclear power contribute to resiliency on the grid; what does it mean that nuclear power is considered “fuel secure”; what are the environmental benefits of nuclear power? And this is obviously a very important question to the Senate and Assembly Committees with jurisdiction -- how much do nuclear power plants help us in our quest to reduce carbon emissions? What are the economic and job benefits of nuclear power plants in New Jersey? And the fundamental, and the most controversial question today, and for all of us to consider: Are the nuclear plants in New Jersey truly in danger of premature closing due to adverse market conditions? The Committees need to hear solid arguments from both sides on this critical issue. This is directly related to my first point, which is, we need to understand the economics of the industry.

Other states, like Illinois and New York, have decided to compensate nuclear plants for their environmental and diversity attributes; what can we learn from New York and Illinois?

And then finally, what are the consequences of our action or inaction? What happens to electric rates if we do nothing, assuming that the nuclear power plants close? What happens to rates if we follow the lead of New York and Illinois? What if we modify the New York and Illinois models? And if we do decide to value nuclear for its environmental and diversity attributes, how do we do this; how do we put a price tag on those attributes?

And that, in a very long nutshell -- in fact, *nutshell* shouldn't be used -- is what we're trying to accomplish today.

So that's a warmer-upper.

Chairman, would you like to-- I may have stolen all your thunder, but--

**ASSEMBLYMAN WAYNE P. DeANGELO (Chair):** That's okay; and that's fine with me, as always.

Good morning, everybody; good morning, Senators, good morning, Assembly members. And thank you for convening in the past week -- getting together. Hopefully everyone had a great Thanksgiving at home as we get ready to hear testimony this morning.

If I can, I'll just ask everyone to also talk about what the Senator said. And the members who are here to hear testimony -- those who are supportive, those who may have concerns on this issue before we go forward -- if we can keep our discussions to the pinpoint of what we're trying to accomplish today in the galleys, we'd be very supportive.

And if I can ask everyone, right now, before we start the meeting to stand for the Pledge of Allegiance to the flag of this country. (all recite Pledge)

**ASSEMBLYMAN DeANGELO:** Mr. Chairman, if we can do a joint roll call at this time?

**MR. DIACONU (Committee Aide):** Assemblyman Rumpf.

**ASSEMBLYMAN RUMPF:** Present.

**MR. DIACONU:** Assemblywoman Phoebus.

**ASSEMBLYWOMAN PHOEBUS:** Here.

**MR. DIACONU:** Assemblyman Zwicker.

**ASSEMBLYMAN ZWICKER:** Here.

**MR. DIACONU:** Assemblywoman Pintor Marin.

ASSEMBLYWOMAN PINTOR MARIN: Here.

MR. DIACONU: Assemblyman Houghtaling.

ASSEMBLYMAN HOUGHTALING: Here.

MR. DIACONU: Assemblyman Egan.

ASSEMBLYMAN EGAN: Here.

MR. DIACONU: Vice Chairman Wimberly.

**ASSEMBLYMAN BENJIE E. WIMBERLY (Vice Chair):**  
Here.

MR. DIACONU: Chairman DeAngelo.

ASSEMBLYMAN DeANGELO: Here.

SENATOR SMITH: So we have decided that the most orderly  
way to proceed is to give the first--

Oh, I'm sorry. (laughter)

First, call the roll.

MS. HOROWITZ (Committee Aide): Senator Smith.

SENATOR SMITH: Yes.

MS. HOROWITZ: Senator Greenstein.

**SENATOR LINDA R. GREENSTEIN (Vice Chair):** Here.

MS. HOROWITZ: Senator Bateman.

SENATOR BATEMAN: Here.

MS. HOROWITZ: Senator Thompson.

SENATOR THOMPSON: Here.

SENATOR SMITH: Okay; so we've decided the most orderly  
way to proceed -- because this is a really complicated issue -- we're going to  
take the first hour, plus or minus, to hear from the proponents for  
additional support for nuclear, based on its diversity and environmental

attributes. And then, at that point, we're going to hear from those groups and parties who find it to be a -- not a great solution to whatever the problem may be. And then if there's any time left, to anybody else.

So let's start with getting the facts.

I'd like to call Ralph Izzo from Public Service to give us the background and the economics of nuclear in New Jersey.

**R A L P H I Z Z O:** Thank you, Mr. Chairman; and thank you Committee members for giving us the opportunity to talk about this issue that is so important to New Jersey.

As you know, we've been in business for 114 years. I am the Chairman, and CEO, and President of Public Service Enterprise Group, Ralph Izzo.

It is virtually impossible for us to move our pipes, to move our wires, to move our power plants. We are deeply invested in New Jersey; our roots here go long and deep. So what's good for New Jersey is what's good for PSG&E; what's bad for New Jersey, is bad for PSG&E,

Now, let me explain to you why we believe that nuclear power is good for New Jersey -- the existing nuclear fleet. It provides 40 percent of the electricity in this state; it provides over 90 percent of the air emissions-free electricity in this state. It produces, through 1,600 direct jobs and 6,000 indirect jobs, over \$800 million of GDP for this state.

Now, let me explain why the loss of nuclear power would be bad for this state.

The laws of supply and demand are simple: When you remove 40 percent of supply and don't change demand, prices go up. You'll hear expert testimony later that we estimate that at \$400 million per year to

New Jerseyans. When you reduce or eliminate 90 percent of the electricity produced by power plants that produce no air emissions, then air emissions go up -- a fine particulate matter, SO<sub>2</sub>, NO<sub>x</sub> -- that we estimate, based on National Academy of Sciences studies, to be about \$150 million that we're paying per year to New Jerseyans.

When you replace nuclear power plants with fossil fuel, we estimate 14 million tons of carbon gets emitted into the air. I'm not here to tell you what the price of carbon should be; you could put that at zero, or you could put that at a much larger number, as former EPA officials put it at \$34 per ton.

You add those numbers up, and that is why we say that it is far, far cheaper to keep nuclear than it is to see it go away.

But I don't think any of that is news to you. I think, as Chairman Smith said, what is news to you is, are New Jersey's plants in trouble? And I'm here to tell you that, in two years, those plants have the real risk of going cash-negative, and we will seriously consider shutting those plants within that time period.

And the reason is very simple. We currently contract for the output of those plants over a timeframe of three years. By that I mean we sell the output of those plants; we guarantee the sale of the output of those plants -- one-third next year, one-third the year after, and one-third the year after that. Which means today those power plants are selling electricity based on prices that were agreed to in 2016, 2015, and 2014. Power prices have been coming down over those three years. And as we do our best to look ahead to see where prices will be, as currently quoted over the

commodities exchange, those prices have dropped to the point where those plants will not cover that cost to capital and, in fact, be cash negative.

It is my fiduciary responsibility as CEO of the company to close those plants at that time. It would be an extraordinarily painful decision because of how much we value the importance to New Jersey; but it is a cut and dried decision from the point of view of our fiduciary responsibility.

Now, things can change. The two most important changes that we are working tirelessly to bring about are, first, at the Federal Energy Regulatory Commission, to correct the flaws in the regional market that do not allow all generators, regardless of fuel, to accurately recover their costs. This is an obscure topic called *price formation* that I won't bore you with the details. But I spend more time in Washington trying to get that straight than I do in Trenton trying to get that straight.

The second issue that needs to change -- and this is well understood in economic circles -- is that markets do not do a good job of pricing something referred as *externalities*. That is the long-term cost to society of certain things, that are valued by a product or not valued by a product, that aren't reflected in its cost of production. In the case of nuclear power, it is its fuel diversity and the fact that the loss of nuclear power in New Jersey would result in all of our eggs being in one fuel basket.

And secondly, the environmental attributes that I referred to a moment ago.

Markets do not have fuel diversity, the reliability that comes with it, or those environmental attributes -- in particular, carbon -- accurately priced in. If we can get price formation changed, if we can get

those attributes priced, then nuclear has a fair shot of competing against other fuels.

Now, why am I describing regional and Federal issues in front of the New Jersey State Legislature? Because other states have recognized this set of market failures, and have taken action to make sure that nuclear plants don't prematurely close. Because once a nuclear plant closes, it is closed forever.

And what we would recommend that you consider is a legislative approach that would not guarantee a payment to nuclear plants, unlike what other states have done when they have guaranteed a payment to nuclear plants; instead, we would propose that you consider building a safety net; and a safety net consisting of three primary principles.

Number one would be that an economic needs test would be designed, administered, and graded by the New Jersey Board of Public Utilities, where any company seeking relief would be required to open its books to provide to the BPU, in a fully transparent manner, why it believes it is failing this economic test under the flaws in the market.

Number two: Any correction made at the Federal level or at the regional level to price these attributes be used to offset any State payment to compensate for those missing attributes.

And number three: Do not adhere to once-and-done. Revisit this on a regular basis; we'd recommend a three-year basis, because that is consistent with the forward price curve in the energy market, with the basic generation service auction conducted by the BPU, and with something called the *reliability pricing model* conducted by the PJM Regional Grid Operator.



Now, you'll hear our opponents say a bunch of things; that this is a scare tactic and that we don't mean to close the plants. I will tell you that over the past few years we have closed 4,000 megawatts of power plants. First we closed some old oil plants, then we closed some coal plants. You have no reason to be aware of that, because it was not an issue for New Jersey. It was an issue for a couple of hundred employees; and we worked really hard to find them good jobs in the company where we could make use of those skills, and we were successful at that.

And so when we retired 4,000 megawatts, nobody knew about it. Now we have the possibility of retiring 3,500 megawatts; a smaller number. But don't let that number mislead you, because these 3,500 megawatts are critically important to New Jersey for the reasons I described before.

Others will describe this as a bailout of corporate interests; a tax on energy consumers. And they will say those things just to tug at the heartstrings of people who don't have the time to pay attention to the issues here; who don't have the tools to do the economic analysis that prices will go up \$400 million a year to New Jerseyans. Our most well-funded opponents are our competitors. They are rational actors doing exactly what they should be expected to do. When the law of supply and demand removes 40 percent of supply, prices will go up; and that is good for them, but not good for New Jersey.

So I'm here today to simply say to you that if we value keeping air as clean as possible; if we value the optimal fuel mix so that we don't have all of our eggs in one basket; if we value keeping energy prices as low

as possible; if we value a strong economy with good, highly skilled well-paying jobs, it is in our collective interest to keep those plants on line.

And with that, Mr. Chairman, I would just conclude by simply saying, that is why we believe it is cheaper to keep nuclear power than to watch it close. We are not asking for a bailout; we are asking you to join us in correction of these market flaws.

And with that, I'm open to any questions you may have.

SENATOR SMITH: Thank you, Mr. Izzo.

I think it might be more helpful if I can ask you to stick around. We're going to be doing a three-hour stint here; and I'd like to save maybe the last 5 or 10 minutes, in the event that there's a need for further comments from you; if you hold on.

MR. IZZO: There is nothing more important to me, sir. I'd be happy to stick around.

SENATOR SMITH: Terrific.

Chairman.

ASSEMBLYMAN DeANGELO: Yes, thank you.

Next up, if we can ask Governor Jim Florio, please.

Good morning, Governor.

**G O V E R N O R J A M E S J . F L O R I O:** Good morning, Mr. Chairmen; good morning, members of the Committee.

I'm very pleased to be here to say a few words about the very important topic that you are dealing with today.

My generation of environmental people were always very troubled by the use of nuclear power. It was the 1970s and the 1980s. I think it's fairly clear now we've learned a lot more about the benefits of

nuclear power; technology has changed so that now environmentally oriented people, who are sensitive to concerns, are very supportive of nuclear power and the benefits of nuclear power.

I think it's clear that this climate change is becoming more and more of an issue of great concern. It's the primary environmental concern that I have, and many other people have as well. As a matter of fact, Governor Kean and I are the Co-Chairs of the project involving climate change adequacy and adaptation. The Alliance that we created has pointed out the unique problems for New Jersey associated with climate change. Likewise, Governor Whitman has been a very articulate supporter of the benefits of nuclear power as well.

Allowing nuclear power plants in New Jersey to close would be an enormous step backwards in our effort to combat climate change. Nuclear power, as was mentioned by Mr. Izzo, provides 40 percent of the electricity in New Jersey; and provides us with nonpolluting energy, which is extremely important to us as we go forward.

If the nuclear power plants in New Jersey were to close, they would be replaced by fossil fuels in the form of natural gas, or perhaps even out-of-state coal generated electricity, which would be unfortunate. Air emissions would increase as they have wherever nuclear power plants have been closed. So this is not speculation; this is actually what has happened in the past as these power plants closed.

A recent report by a group -- The Brattle Group -- which is a highly prestige consulting organization -- estimates that continued operation of nuclear power plants in South Jersey avoids 13.8 million tons of carbon dioxide. This is the equivalent of adding something like 3 million

more automobiles to our situation here in the State of New Jersey. That's the equivalent of all the automobiles that are now operating in New Jersey. So think about doubling the number of cars we have in the state.

Dealing with the whole climate change gas issue, which entails burning fossil fuels -- also releasing public health problems; releasing problems associated with nitrogen oxides, sulphur oxides, particulates, and mercury into the air, negatively impacting our ability to deal with diseases of respiratory -- asthma, other respiratory diseases, and diseases (indiscernible) serious health problems.

Pollution comes with a cost, a financial cost as well. The Brattle Group estimates the value of air pollution that is avoided -- something like \$700 million; three-quarters of a billion dollars. That's just in direct economic costs; it doesn't say anything about the value of our economy of the thousands of jobs that would be lost, or the value to having a diverse fuel portfolio so as not to be totally dependent on one source of energy.

The value of these environmental benefits, as I say, is three-quarters of a billion dollars to our economy. The environmental community has to remain committed, and I remain very much committed to achieving the core principles we're all working for in the energy field. That is to say, maximizing energy efficiency, as well as promoting renewable energy. I stand second to no one in terms of promoting environmental renewable energy. That's something that's extremely important; advancing a good, quality lifestyles is something likewise that we want to remain committed to.

But we're talking about the immediate term; we're talking about the interim term; the need to have baseload capacity. We're not going to be able advance to renewables energies in the intermediate term; and so, therefore, having pollution-free nuclear energy is absolutely essential for the viability of our economy and for public health.

I guess I would conclude by just saying that, in the future, solar and wind will produce the energy that we need to reduce harmful emissions; and that nuclear energy takes on the role of a bridge energy source while we wait for the renewable energies to take their full responsibility. If we allow the current nuclear plants to close, it will wipe out all the environmental benefits we've already achieved, and our good advances in solar. And I anticipate with a new Administration coming in that we will finally make the long-delayed initiative in offshore wind. New Jersey has particularly good wind resources; we have delayed it for the last six years, not gone forward in the way that we should. And we will change that, I think, with the new Administration. Without nuclear power, we will not be able to advance in that area in that way.

As nuclear power plants in the state are threatened, it's important for us to remain committed to the preservation of these resources for the next period of years.

So I want to thank the Committee for allowing me to talk with you, to speak with you on this topic. And I urge you to do what is right, by preserving the viability of these plants.

Thank you.

SENATOR SMITH: Thank you, Governor.

ASSEMBLYMAN DeANGELO: Thank you, Governor.

SENATOR SMITH: So we have three statements that we're not going to read into the record. But for the record -- and I'll maybe read the one or two sentences that gives the position of the parties involved.

Senator Cory Booker has a statement that will be part of the record; and the summary statement is, "As you know, several existing reactors have recently been shut down prematurely, and many more are at risk. In order for the United States to meet short- and medium-term emissions reduction goals, we need sound, long-term government policies that will maintain the existing fleet of nuclear reactors."

That will be in the record.

We have a statement from Congressman LoBiondo. And one summary statement in that one is, "Recognizing the important role that State government plays in this area, I encourage the elected officials in Trenton to focus on the importance of nuclear energy and help address the current market flaws in the wholesale electricity markets. This will help ensure that the nuclear power plants in Salem County remain an important resource for grid reliability, fuel resiliency, and practice sound economic environmental policies."

Congressman LoBiondo's statement will be in the record.

We have a statement from Congressman Donald Norcross. And again, I'll just go to the summary sentences. "To conclude, a stable, secure, and reliable energy portfolio will ensure a bright future for New Jersey. Maintaining diversity in our state's energy supply creates confidence that we are keeping our energy portfolio clean, secure, and economically viable. Keeping nuclear power in our energy supply will be the key to

achieving these objectives. I sincerely hope you will consider these points as you debate long-term energy policy in our great state.

“Thank you.”

So Congressman Norcross’ statement will be in the record.

And as a witness, we have former Commissioner Robert Shinn -- former DEP Commissioner.

Is Mr. Shinn present?

Mr. Shinn, who I had the pleasure of serving with in the Legislature.

**COMMISSIONER ROBERT C. SHINN Jr.:** It’s a special privilege for me to come back to folks who I have worked with, and a few new faces in the crew.

But after a long hiatus, and spending eight-and-a-half years in the Legislature, and then another eight years as Commissioner, we did a lot of interaction, and we did a lot of good things together. And I’d like to thank all of you for that, both houses. We worked closely together for a lot of years.

I’m going to, maybe, bore some people; but I want to get the point across. When I became Commissioner, I thought the job was in New Jersey, and New Jersey had enough environmental problems to keep me busy. But I found out I had to be in Washington, because that’s what was happening with the air issues.

And during the Clinton Administration, I was requested by the State Department to represent the United Nations in its special session on climate change in 2001.

SENATOR SMITH: Commissioner--

COMMISSIONER SHINN: I presented New Jersey's--

SENATOR SMITH: Commissioner, Commissioner.

COMMISSIONER SHINN: --sea-level rise--

SENATOR SMITH: Commissioner, I have to beat up on you.

We were saying we don't want anybody to read statements; we want you to say what you want to say. We're going to put the statement in the record so everybody can read every word of it. But in the-- There are a lot of people here who want to say things, so reading statements -- other than the two Chairs, because we make the rules--

COMMISSIONER SHINN: Okay; right to--

SENATOR SMITH: -- so we can get away with it. But everybody else -- just talk about your point.

COMMISSIONER SHINN: The public health issue with ozone.

SENATOR SMITH: Yes.

COMMISSIONER SHINN: And that obviously-- The ozone is generated by NOx and DOx. It's 90 degrees temperature in sunlight. And basically, it's carbon emissions into the environment.

The public health issue in New Jersey -- the University of Dentistry and Medicine did a health study, from 1986 to 1990, and basically 600,000 adults and 167,000 children were impacted with asthma on days when the ozone standard was above 60 parts-per-billion. When the concentration was greater than 60 parts-per-billion, there was a 26 percent increase in daily emergency department visits for asthma than when the ozone concentration was less than 60 parts-per-billion. And our standard now is 70 parts-per-billion; so 60 parts-per-billion is a lower standard than



70. So this study was based on data from Central Jersey from 1986 to 1990.

The current ozone standard -- the National Ambient Air Quality is 70 parts-per-billion. The paper suggests that ozone adversely affects asthmatics at levels below the current U.S. standard. So that's pretty much a given; the standard is above the asthma study. And I will provide copies of that study to the Committee because--

SENATOR SMITH: Great; but I think your point is that by keeping the nukes online, we have less air pollution in New Jersey. Is that basically the point you're making?

COMMISSIONER SHINN: I'm having trouble hearing you; I'm sorry.

SENATOR SMITH: It's happening to me more and more as well. (laughter)

I think the point that you're trying to make is that by keeping the nukes online we have less air pollution in New Jersey. Is that basically--

COMMISSIONER SHINN: Well, the point I'm trying to make is we can't make a nonattainment -- we're a nonattainment state.

SENATOR SMITH: Right.

COMMISSIONER SHINN: And our standard was lowered through a lot of effort by states east of the Mississippi River. The vote on lowering those standards of those states under an EPA FACA -- Federal Advisory Committee Act -- was 32 to 5. So we got a lot of support from other states after reviewing-- And this study was really the focus of that effort.

The issue is, we can't lose generation from nuclear power plants, mainly because we're part of the PJM system. That energy is going to be generated by someone in the PJM grid; and PJM -- Pennsylvania, New Jersey, and Maryland -- it's not going to come from Maryland; it's going to come from Pennsylvania. And part of our battle was with the power plants on the other side of the river -- prevailing winds driving that ozone, and particulates, and DOx and SOx across the river, and impacting our-- We had some serious ozone events, and we've made great progress. But my point is, that it's no time to go backwards. So we have to find a way to preserve-- The power that we have is nonpolluting; get the cleanest generation beyond that that, we can.

There are some satellite things that impact this. One of the things that I think is important is -- we haven't heard a lot about Yucca Mountain lately. Yucca Mountain is a long-term storage facility. I've been through Yucca Mountain; it's completed. The tunnel is there, the storage facility is there, it's fenced in. It needs to be opened, and that's basically what has to happen. Yucca Mountain -- and, obviously, the presidency has changed -- that there needs to be a new emphasis on long-term storage. And hopefully, in the process of your system, you can make that an area to pursue.

In pursuing clean air, I think taking a hard look at trading programs, where clean generation generates credits and polluting generation buys credits. At the very least, it's worth a serious look. It's-- RGGI was New York/New Jersey and the New England states. And RGGI may or may not be a possibility, but I think looking at it from a strict New Jersey perspective is worth the effort.

And I thank you for the opportunity to testify, and I appreciate your time.

SENATOR SMITH: Thank you, Commissioner.

ASSEMBLYMAN DeANGELO: Thank you.

Ladies and gentlemen, we're about 40 minutes into this hearing, and we've heard from three individuals.

So if I can ask those who are proponents and opponents of this to review your notes. We will have copies of your testimony. Just highlight, if you can; again, reaffirming *highlighting* your testimony. There are a lot of people in the room to be heard.

Next up, if I can please invite former U.S. Senator and Nuclear Matters Advisory Council member Senator Gregg, who will discuss some of the impacts of a closure.

Senator; and welcome to New Jersey.

**SENATOR JUDD A. GREGG:** Thank you very much, Mr. Chairman and members of the Committee.

It's a pleasure to be here. I came in from New Hampshire this morning; it was a beautiful drive in. It looked spectacular coming in.

I'm here today to talk about the importance of these plants -- not only in New Jersey but nationally -- in the context of premature closure. I'm a participant in a group called *Nuclear Matters*; there are 17,000 members. We're totally focused on trying to keep open plants that can still run, still deliver energy; that are, maybe, closed prematurely.

Unfortunately, in New England -- and specifically, in New Hampshire -- we've had the experience. We've been through the experience of having a plant closed prematurely; it was called *Vermont Yankee*.

As has been outlined by the Chairman, very effectively, nuclear power plants have some very unique capabilities. They obviously supply energy in difficult times, such as weather conditions; they're reliable. The polar vortex of 2014 -- we probably would have had massive brownouts throughout northern New England and in New Jersey without nuclear power, which stepped in, because it's 24/7. They obviously also don't emit carbon; and they're 90 percent of your noncarbon emission here in New Jersey; they're 87 percent -- or were -- in New England.

Obviously, they also are diversity. Putting all the eggs in one basket is a mistake. They are 20 percent of our national power grid. It would be foolish of us to take a large amount of that power grid offline arbitrarily and prematurely.

And lastly -- as what I wanted to focus on a little bit -- is the local impact. When Vermont Yankee closed -- and this will, I'm afraid, be your experience if these three plants you're addressing down here close prematurely -- first off, all the energy they replaced was carbon. You'd like to think that it would be wind; you'd like to think it would be solar. We have some weather conditions like you have in the winter that don't necessarily make solar all that effective in our part of the country. And wind is obviously down the road, although coming.

But for all intents and purposes, every amount of power that was produced by Vermont Yankee was replaced by carbon. More importantly, from a New England standpoint -- and I think from New Jersey's standpoint, as has already been alluded to -- it came from outside our region. One of the advantages of having a nuclear power plant in a place like New Hampshire -- where we don't have any basic energy sources

like oil or gas -- is that we can say to our employers, "We have local energy sources for you. We have nuclear power."

When that plant closed, we had to import gas-based power; and that obviously emitted a great deal of carbon.

It also ended up spiking prices in the southwest part of New Hampshire. Where the plant delivered energy, the prices are up by about 50 percent. In northern Massachusetts, they're up by about 35 percent. Vermont has a little different situation; but in those two areas, prices have spiked considerably. It's estimated that, since 2002, the cost of energy in our region, as a result of not having Vermont Yankee, is up by about \$330 million. That's a lot of money.

It's also a huge impact -- and this should not be underestimated on the communities -- a nuclear power plant is a major employer. I think here in New Jersey they have about 6,000 jobs tied directly to nuclear energy; almost \$800 million of revenue goes into the economy because of nuclear energy.

In that part of New England -- which was the southwest region of New Hampshire, the bottom part of Vermont, and western Massachusetts -- it was devastating. Towns had to close police forces; towns had to close schools, because there was no tax base any longer. I mean, they were basically the tax base. And it had a huge impact, and a lot of people lost their jobs.

So it really-- Our group, Nuclear Matters, really feels very strongly about this. And in fact, we've commissioned a study -- which I think all of you have here -- it's the *IHS Markit* study; it's a very good study of what is projected to be the impact on New Jersey of the closure of these

types of facilities, of these three facilities. I would recommend it to you, if you have time, to take a look at it; because it is substantive, and it's thoughtful, and it's factual.

And I would simply say that -- don't replicate our experience. Try to come up with some ideas; and there have been some suggested, and I admire the Chairman's openness, and both houses' openness, to taking a look at this and trying to come up with some ideas for how you keep these plants functioning. Because it really is foolish; it's a cut-off-your-nose-to-spite-your-face situation, when you start closing these plants prematurely, in my opinion.

Thank you very much.

And I appreciate the courtesy of allowing me to speak early. It was nice to see Governor Florio, who I had an opportunity to serve with.

So, thank you.

ASSEMBLYMAN DeANGELO: Thank you, Senator.

SENATOR SMITH: Our next witness is Bob -- and Bob, I cannot pronounce your last name -- from C2ES.

Bob, are you here?

Oh, he's coming.

C2ES is Center for Climate and Energy Solutions.

Bob, if you'd pronounce last name.

**ROBERT PERCIASEPE:** Good morning.

Perciasepe (indicating pronunciation). Sooner or later I figured it out -- when I was a young man. (laughter)

Mr. Chairmen, plural, and everybody here, it's an honor to be here in the New Jersey General Assembly (*sic*).

My name is Bob Perciasepe; I'm the President of the Center for Climate and Energy Solutions. And we're an independent nonpartisan think tank. We're the predecessor of the Pew Center for climate change.

But before that I was the Deputy Administrator at the U.S. Environmental Protection Agency; and the Chief Operating Officer for the National Audubon Society; and was Secretary of the Environment for the state of Maryland. And I actually had a chance to work with Bob Shinn when he was in that position.

Let me summarize my written testimony, which you already have -- some key points.

The path to a low- to zero-emissions future with carbon is going to be a many-decade path. In that future we will need all the zero-emitting technology we can get and preserve.

States like New Jersey and many others have been in the leadership position for many years, even before the current lack of clarity, perhaps, at the Federal level. So this is something that is not a new thing for states to do -- to look at their own future and how it fits into the bigger national picture.

New Jersey, as you've already heard, gets 40 percent of its electricity from nonemitting sources; mostly nuclear, but over 90 percent of it nuclear. And preserving that existing zero-emitting electricity is a no-regrets strategy for any long-term plan for decarbonization or pollution control for the state.

It allows the opportunity for the development of other technologies to deal with the other 60 percent of the electricity and where the emissions come from -- things like renewable energy, energy efficiency,

carbon capture on fossil fuel facilities. Reducing prematurely the zero-emitting electricity in New Jersey will put the state in a hole, so that as it develops these other zero-emitting and low-emitting technologies you'll just be simply catching up for the first several decades; you won't be getting ahead. What you want is that new technology, those new sources coming on to be additive, as opposed to just trying to fill the hole.

So closures in other parts of the country -- this has already been mentioned; I'll just repeat, quickly -- in particular in Wisconsin, and Florida, and California-- We hear a lot about California's leadership, which is tremendous. But when they closed nuclear power plants in California, their greenhouse gas emissions went up.

And so I think when you look holistically at a comprehensive strategy for the state, having the ability to look at the economics of these existing nuclear power plants and zero-emitting sources of energy, and being able to act on that as part of that longer term vision, I think it's an important thing for the General Assembly to consider.

So Chairmen, I will stop there.

SENATOR SMITH: And you have a written statement that you've already put in the record.

MR. PERCIASEPE: Yes, I do.

SENATOR SMITH: Thank you very much for participating.

MR. PERCIASEPE: Thank you for inviting me; it's an honor to be here.

ASSEMBLYMAN DeANGELO: Thank you.



Just for the record, Mr. Paul Stockton is a former Department of Defense official. He provided written testimony for the resiliency and fuel diversity.

Next up to speak -- Armond Cohen, with the Clean Air Task Force, on environmental issues.

Armond.

**ARMOND COHEN:** Thank you very much.

I have submitted a written statement; and I just want to emphasize a few points, and maybe put some numbers on them. These points have been made before.

I'm going to address three issues: Timing and the importance of keeping these plants open in the near-term; second, what would be the replacement to get to a zero carbon system; and finally, the question of subsidies.

On the timing question, the fact of the matter is the planet is not doing well right now. The last hurricane season and the wildfires on the West Coast suggest a climate that's changing very rapidly.

What the science is telling us is that it is being driven primarily by manmade contributions of CO<sub>2</sub> to the atmosphere; at least it's exacerbating existing problems. The science is telling us that we need to be at a zero-carbon energy system by about mid-century. Why is that? Well, in my testimony I described -- the system is like a bathtub. And you can only put so much carbon in until you overflow. And the point of overflow is not that far off. We've filled about 90 percent of the bathtub with all the carbon that the planet can handle, and that last 10 percent is quite critical.

The drain on that bathtub is very, very small. So as we're pouring in at unprecedented rates, last year carbon emissions on the planet went up at a 2 percent rate after having been flat for several years. So the spigot is increasing in its flow, but our drain is actually even getting smaller. And that's for scientific reasons, having to do with the saturation of the sinks.

So the bathtub is filling very rapidly; the obvious ultimate solution is to turn the spigot off. But in the meantime, we should keep the spigot as far down as we can. And that's what nuclear power plants, throughout the world and in New Jersey, do. So every molecule of carbon in the atmosphere is essentially forever, because we're talking about centuries to drain out the system.

So that's the timing problem; that's why you can't push this problem off of tomorrow and say, "Well, we can just retire the New Jersey plants, and we'll make up for it with wind and solar on the other end." There is no making up, at least in the time scales that we're concerned with.

Replacement. So it's been said that merely to replace New Jersey's existing plants with zero-carbon energy would be very, very hard. That's not an argument against wind and solar; I think we should be doing all of that. But the challenges are very significant.

Let me just give you a couple of numbers. Just to replace the output of the existing New Jersey plants would require siting 12 of the largest offshore wind farms in the world off New Jersey's coast. And that's as every other state in New England and in the Northeast is trying to do the same thing.

That's a big task. In Massachusetts, where I come from, we had a very small offshore wind farm that's been debated for a decade, and still isn't connected. Recently, there was a very small wind farm connected off of Rhode Island, but that's about 1 percent of the output of the Salem plant, for example. So these are very big projects; they're going to take decades. Meanwhile, all that carbon is pouring into the atmosphere. And it's essentially an irreversible filling of the bathtub.

The incoming Governor -- Governor-elect Murphy has indicated that he wants to bring New Jersey back into the Regional Greenhouse Gas compact, which would require a modest 10 percent reduction in the region's greenhouse gas emissions from the power sector. Taking New Jersey's plants offline would wipe out all of those gains that are projected by 2020. So you'd be putting yourself in a deep hole, not just in New Jersey, but the entire region. Because, again, as has been said, the near-term replacement is going to be gas and coal. There will be some wind and solar in that mix, but a very small amount, because it is trickling into the system.

Last topic: subsidies. Folks are going to come up here and say that this amounts to a subsidy for existing nuclear plants. Fair enough; that is true. It's also true that that is also true for any zero-carbon energy source. Gas is just too cheap right now to compete against if you're zero-carbon. So that holds true for wind, it holds true for solar, it holds true for biomass -- any number of other low-carbon sources. Just to give you a feel for this: The deals that were done in New York and in Illinois to keep the existing plants operating put about a penny-and-a-half per kilowatt hour back into the system to keep those nuclear plants operating. That's

somewhere between a third and a tenth of the subsidies that are currently flowing to wind and solar at the State and Federal levels. And I'm not arguing against those subsidies; I think that's a good thing, that we're bringing more wind and solar onto the system. It's just that the kind of margin that you're talking about that would be necessary to maintain New Jersey's nuclear plants would be quite modest, compared to other zero-carbon energy sources that we're currently providing public support to.

Those are my key points, and I'd be happy to answer any questions.

Thank you very much.

ASSEMBLYMAN DeANGELO: Thank you very much, Armond.

SENATOR SMITH: Thank you.

And the next witness -- Norris McDonald, the African American Environment Association.

Mr. McDonald. (no response)

ASSEMBLYMAN DeANGELO: Is Mr. McDonald in the room?

UNIDENTIFIED MEMBER OF AUDIENCE: (off mike) He's here.

ASSEMBLYMAN DeANGELO: Okay.

**N O R R I S M c D O N A L D:** Chairmen and Committee members, my name is Norris McDonald; I'm Founder and President of the African American Environmentalist Association. We were established in 1985. We were also the first environmental group to support nuclear power.

I am delighted to be here before you today. This is a very, very important issue.

These plants cannot close. And my testimony here today is about ozone and disproportionate impacts.

A recent report by the American Lung Association, *The State of Air 2017*, says that 11 counties get an *F* grade in terms of air pollution. As you well know, New Jersey is in violation of the Clean Air Act for ozone. So we cannot lose these plants; we absolutely can't lose these plants.

I happen to be a chronic acute asthmatic myself. I have been intubated twice for four days. Anyone who has a child or a relative -- and we all do in this room -- who has ever suffered an asthma attack, you can't put a price on clean air. And all of you have witnessed this. Conversely, any child who has watched their parent suffer an asthma attack -- as my son had to watch me on my knees, struggling for a breath to breathe.

Now, here in New Jersey, the 11 counties that received an *F* grade from the American Lung Association were just in violation of ozone. And so we've documented that in my written testimony. I have a 15-page written statement that you have before you, and a three-page oral statement. But the Chairman wanted us to speak from the heart, so I'm speaking from the heart.

The problem I have with clean air is that the Clean Air Act doesn't protect us; it doesn't protect us in the counties that I listed -- that are listed in the American Lung Association report. The Clean Air Act just simply doesn't protect us. And as you are aware, that implies a State Implementation Plan. The State Implementation Plans do not include nuclear power's clean air benefits. Now, we have to-- If the State is in

violation of the SIP, -- the State Implementation Plans -- if the State is in violation of the SIP, the penalties are supposed to be -- you're supposed to lose highway funds or you can't get new building permits, which is rarely enforced. I'd be happy for you to enforce those, but that's why I love nuclear power. Nuclear power, just by its nature, it's a technology. We don't need regs, we don't need laws; the technology itself is emission-free. It does not produce smog-forming gases or greenhouse gases. As an asthmatic, that's a value to me -- the very technology itself.

Now, since we first started supporting nuclear power back in 2000, I was on the cusp of watching nuclear power rise up, and was part of the renaissance that was supposed to happen. We thought we would have 100 new nuclear power plants back in 2005; and then fracking and horizontal drilling hit, and the bottom fell out. And so now we have an economic situation where nuclear needs help.

Well, the clean air benefits of nuclear power -- considering that the State of New Jersey is in violation of the Clean Air Act, considering any child or elderly person who might have an asthma attack -- the benefit of a nuclear power plant -- these two nuclear power plants is invaluable, absolutely invaluable. I don't think you could put a price on it.

So to the extent that the State can provide any supports for these plants, would be invaluable to the citizens of New Jersey. New Jersey is suffering.

Now, there also are no protections. The previous Department of Environmental Protection Commissioner spoke to the number of people in New Jersey who have asthma: 600,000. I mean, that's a big number. But there are no protections.

We work on environmental justice, and I think you're familiar with that. Well, the Department of Environmental Protection has an Office of Environmental Justice, but that Office has no protection (*sic*) to protect people who suffer disproportionately from air pollution. I wrote the Environmental Justice law for the state of New York. It was passed back in April, and signed by Mayor de Blasio back in April. Senator Cory Booker has introduced national legislation to address environmental justice that would address the particular vulnerabilities of vulnerable communities that have much higher asthma rates than the general population. New Jersey doesn't have an Environmental Justice law, and I'd be interested in working with the Committee to draft such a law to pass for the State that could then address the disproportionate air pollution issues we have.

That's it for me, Mr. Chairman; and I appreciate your time.

SENATOR SMITH: Thank you very much.

ASSEMBLYMAN DeANGELO: Thank you very much.

Next up, if I can please invite Dean Murphy, from The Brattle Group, to discuss rates, the environmental economic impact of the plants closing.

Dean.

**DEAN M. MURPHY, Ph.D.:** Good morning, and thank you for the opportunity to tell you about the work that my team at The Brattle Group has done to look at the economic and environmental impacts of the Salem and Hope Creek nuclear plants.

We've done similar studies in several other states, including New York, Illinois, Pennsylvania, Ohio. For New Jersey we found that the Salem and Hope Creek plants bring significant benefits to the state. If

those plants were to shut down over the next 10 years, the state would experience the following impacts: higher electricity costs by \$400 million per year--

SENATOR SMITH: How do you figure that out?

DR. MURPHY: That is by modeling the electric supply system; and we model it twice -- once with those plants in place, once without the plants -- over the next 10 years. We look at the impacts on which plants generate, how much they generate, what market prices are; and then we take the difference between those two cases -- with versus without nuclear -- and that is the impact on electricity prices.

It happens because nuclear plants have very low, short-term costs. Once they're operating, their cost of operating is essentially zero; they bid into the market at zero. If they disappear, the market must turn to other, more expensive generators; and that pushes up the price that everyone pays. We've characterized that price, on average, over the next 10 years; the total costs of that is about \$400 million. That's about \$5 a megawatt hour, or half-a-cent per kilowatt hour. And it amounts to, roughly, a little more than \$3.50 for a typical New Jersey residential consumer.

Following on from that electricity impact -- an electricity cost impact, that would cause a reduction in State GDP of over \$800 million per year. That would cause a reduction in State tax receipts and also Federal tax receipts. We estimate \$37 million reductions in State tax receipts due to the decrease in the New Jersey GDP.

It would also cost New Jersey jobs. We estimate 5,800 jobs in total. Some of those jobs are at the plants, but the majority of them are



spread throughout the New Jersey economy. And that is because these impacts are primarily indirect. Because of the depressing effect that the loss of the nuclear power plants would have on the New Jersey economy, it would reduce jobs in every sector throughout the state. And it's simply because losing the nuclear plants raises power prices; higher power prices means that producers and consumers have less money to invest and spend in other ways, and that creates a drag on the economy.

The other major effect of losing the nuclear plants, of course, is environmental. If the nuclear plants are gone, the power must still be provided, and it will be provided by fossil -- mostly existing plants, mostly natural gas-fired plants, and most from outside New Jersey. In aggregate, this will increase carbon dioxide emissions by about 14 million tons; that's the equivalent of 3 million automobiles. That's just slightly more than the number of automobiles that are registered in New Jersey today.

It will also increase the emissions of other pollutants. We estimate tens of thousands of tons across several other pollutants -- sulphur dioxide, nitrogen oxides, and particulate matter.

The total social and public health costs of these increased emissions we estimate at over \$730 million per year. That is independent of and in addition to the economic effects I mentioned a moment ago. Keeping the nuclear plants operating will prevent these losses.

I have stressed that the economic benefits that I've mentioned here are effectively the gross benefits. We have not yet accounted for any costs that may be necessary to keep the plants operating. And of course, you should consider very carefully any costs of any proposed support program. But the magnitude of the benefits -- the gross benefits is sufficient

that I believe that any serious proposal to support the plants deserves at least clear consideration.

Here's the surprising result that we found; and this goes directly to Chairman Smith's question that opened this hearing. He asked, "How do we put a price tag on the benefits that these plants provide?" Well, the fact that these nuclear power plants keep electricity prices lower than they would otherwise be means that they may save customers money, rather than costing them money, even if the plants themselves need financial support.

Thank you for your time; I'd be happy to take any further questions.

ASSEMBLYMAN DeANGELO: Thank you very much; and I apologize, Dr. Murphy, for not giving you a proper introduction. I didn't know you were a Doctor.

SENATOR SMITH: All right; our next witness is Larry Makovich, from IHS, on the economics.

**LAWRENCE J. MAKOVICH, Ph.D.:** Good morning.

Thanks of the opportunity to talk about this important issue with you today.

I'm the Chief Power Strategist with IHS Markit. I led the study that we did on the value of the continued operation of the Hope Creek and Salem nuclear plants in New Jersey, and I have attached a copy of the study to the pre-filed testimony.

Chairman Smith, when you opened up this discussion today, you talked about nuclear power plants not being able to compete in the marketplace, and attributing that to the low cost of rival natural gas-fired

generators. And I think that might give people the wrong impression, because the market test right now isn't a valid test of the economic efficiency of continuing to run these nuclear plants, because we have some real disharmony between climate policies and market operations that are distorting our market clearing prices. And what we're seeing is a suppression of the market clearing price of energy in these wholesale markets.

Now, since PJM also has a capacity market that operates alongside the energy market, we're not worried that we're not going to get enough capacity built. But with this kind of market distortion, what we're worried about is you're going to get underinvestment in the higher utilization technologies that have greater efficiency in turning primary energy into electricity. This is your base-load power plants and your cycling power plants.

So if we let these distortions play out, we're going to get a generation mix that has too many peaking units, and too few more efficient cycling and base load units. And that's why if you look at the effect of these distortions, it's not just on nuclear power plants; but we see financial distress with the gas-fired generators. This isn't the creative destruction in the marketplace where profitable, gas-fired generators are driving out unprofitable competitors. The distortions are harming them as well.

So we've looked at the case if this condition leads to the closure of these nuclear plants. We're going to end up with a generating mix that's less resilient than what you'd have in an efficient market outcome. And we looked at the polar vortex, and just said, "What if we didn't have these

nukes in, rather than having them operating?” and it was \$70 million to \$230 million of resiliency benefits.

Now, polar vortex is not likely to happen again; but something else will that’s low probability-high impact. You know, in California -- they had their gas storage failure in the past year. So there are these low probability-high impact events that make diversity -- not having all your eggs in one basket -- so valuable.

We also expect, if we lose these plants, to see not just higher electricity bills -- because the pipeline is about 15 percent renewables, 85 percent gas -- but we’re going to see more variable electricity bills, month-to-month, because the price of natural gas is just inherently more variable than the price of other inputs to power production. Higher and more variable prices have a negative impact on the competitive position of New Jersey businesses, and we estimate a 0.14 percent, or \$820 million loss to the GDP, with about 6,100 jobs lost, with the economic adjustment that would happen.

And the negative environmental impacts -- we’re talking about a closure and a replacement that leads to 13 million metric tons of higher CO<sub>2</sub> emissions in electric generation in the State of New Jersey. To put that into perspective: 19.4 million metric tons was the total amount of CO<sub>2</sub> emissions from electric generation in 2015 in New Jersey. So if you put a price on that -- the social cost to carbon that people talked about -- that’s another benefits of about \$530 million a year. And when you put the SO<sub>x</sub> and NO<sub>x</sub> benefits at current market prices for those pollution allowances, that’s another \$420,000 per year. So that when you look at the impact -- higher power bills, more varied power bills, negative economic

impacts, less resiliency -- I think there's a clear economic argument here to do something to counteract the distortions that we see in this marketplace, to keep these power plants running that are cheaper to keep running and more beneficial than they are to close down and replace.

ASSEMBLYMAN DeANGELO: Thank you.

Next up, if I can ask Michael Shellenberger, the Founder and President of Environmental Progress, to come up and testify?

Michael.

**MICHAEL SHELLENBERGER:** Thank you very much for inviting me to testify. I am honored to be here; and I did print out my testimony, which I will not read from.

SENATOR SMITH: Good. (laughter)

MR. SHELLENBERGER: So I'm President of Environmental Progress. We are a nonpartisan, nonprofit, environmental organization based in Berkeley, California. We are independent of all energy interests. And over the last two years we have been advocating for keeping nuclear plants online, both in the United States and abroad.

We have about four dozen of the world's leading climate scientists, including James Hansen, who have been doing this advocacy with us. We've done over two dozen open letters, both around Illinois and New York; but also France, South Korea, Taiwan -- around the world.

It's very exciting to see so many other pro-nuclear environmentalists coming up here to testify. I think it's a testament to how much has changed over the last couple of years.

I'm only going to speak to some new information; my testimony has some things that other people have already touched on. The

first that you may be aware of is that New York -- the New York region is already the 25th most polluted -- is within the 25th most polluted cities in America. The American Lung Association, this year, gave 11 New Jersey counties an *F* grade for their ozone pollution, in particular.

And I want to build on something that Armond Cohen testified to, which is that California, in fact, stands as a stark warning to New Jersey. Our electricity prices have gone from 13 cents a kilowatt hour to 18 cents a kilowatt hour since 2011. By contrast, the national average price of electricity went from just 10 cents to 11 cents everywhere else.

What the consequence has been is that it has driven out manufacturers, which are key parts of providing high wages to our population. And California today has the highest poverty rate in the country (*sic*), according to the U.S. Census Bureau.

So what happened? Well, it's pretty simple. We closed one of our two nuclear plants -- each of which operates at a cost of about 5.5 cents a kilowatt hour -- and we increased the amount of electricity from solar, natural gas, and wind; mostly natural gas.

The best available peer-reviewed economic research finds that the value of wind declines by 40 percent once it becomes 30 percent of your electricity; and the value of solar drops by half when it gets to 15 percent. New Jersey has very ambitious renewables goals, and you hear a lot about how the cost of solar panels and wind turbines has come down. But that's not the same thing as saying that the price of those forms of electricity comes down. That's like saying that restaurants should be getting cheaper because corn and wheat have become cheaper to grow. Electricity is a service; we demand it 24 hours a day, 7 days a week, rain or shine, night or

day. And so when the sun is not shining and the wind is not blowing, you have to provide that electricity from somewhere else.

Well, what about the battery revolution that we hear so much about? There isn't a battery revolution. If there were a battery revolution, then California wouldn't have had to be paying Arizona -- as we have been doing this year -- to take all of the excess solar electricity that we generate so that it doesn't blow out our grid.

Now you might think, because we have heard so much, that everyone has to pay more for electricity because of climate change; so you might think that our carbon emissions are going down, since we've been paying so much for electricity. It's not the case. Carbon emissions in California increased by 11 million metric tons since 2011, while they declined in the rest of the United States by 174 million metric tons.

So you've heard a lot about overdependence on natural gas. Just to give you a sense of it: Already natural gas has doubled as a share of New Jersey's electricity. Last year it was 56 percent of your electricity, and nuclear provides 39 percent. So natural gas, of course, is cheap now, but what happens when it becomes 90 percent of your electricity? That shrinking of supply is going to allow for market manipulation, which has become all too common. In fact, it was one of the major factors behind California's electricity crisis in 2000.

So I think that, obviously, a close look should be made to make sure that consumers get a fair deal here. I don't think that this should be a one-sided conversation; everyone should be involved in it. But I do think that you need to be aware that many of the people out there selling renewables are also investors in and financiers of natural gas plants. And so

the interest often in promoting renewables as though they're an alternative to nuclear and fossil fuels is heavily backed by natural gas interests.

Thank you very much.

I'm open to any questions, if you like; or I can move on.

ASSEMBLYMAN DeANGELO: Thank you.

SENATOR SMITH: Thank you.

MR. SHELLENBERGER: Thank you very much.

Do you have a question, sir?

SENATOR SMITH: No.

ASSEMBLYMAN ZWICKER: Can I--

SENATOR SMITH: Oh, there is a question.

ASSEMBLYMAN ZWICKER: Just one, real quick.

Did you just -- I thought I just heard you say, very quickly, that you're blaming poverty in California on closing a nuclear power plant.

MR. SHELLENBERGER: No, I'm not. What I'm saying is that one of the -- when your electricity prices go from 13 cents to 18 cents a kilowatt hour, it drives out manufacturing; and that has occurred. Manufacturing is important to providing good jobs. Our high poverty rate is due to, basically, two major factors: the high cost of housing and the high cost of energy. So the people look a lot at the housing, but really electricity and energy play key roles as well.

ASSEMBLYMAN ZWICKER: So it's a component; but it's not-- It sounded like you were saying it's a driving--

MR. SHELLENBERGER: I'm saying higher energy--

ASSEMBLYMAN ZWICKER: Closing-- Higher energy is different.



MR. SHELLENBERGER: Well, yes. And closing the nuclear plant and increasing renewables led to very significant increases in our electricity; 13 cents to 18 cents a kilowatt hour.

ASSEMBLYMAN ZWICKER: Okay.

MR. SHELLENBERGER: Thank you very much.

SENATOR SMITH: Thank you.

So one of the problems with this hearing is there are an awful lot of people who want to testify. So what we're going to try-- There are-- One of the ways that we can get a lot of people, and their points of view, represented at the same time is to invite them up as groups. So let me do two groups that I think are basically in favor of further nuclear support. And then I think it's time -- we have to get some of the opposition viewpoints on the table here.

So let me first ask up a number of Labor representatives who have asked to testify. Mike Maloney from the New Jersey State Pipe Trades; Wyatt Earp, New Jersey IBEW; Steve Stokes, Northeast Council of Carpenters; Eric Richard, New Jersey AFL-CIO; Buddy Thoman from IBEW; Rich Lavesque from Mechanical Contractors; AJ Sabath, New Jersey Building and Construction Trades; Ciro Scalera, New Jersey Laborers Union; Bud, I mentioned; and Wyatt Earp, I mentioned.

And by the way, please don't take this as a sign of disrespect. There are another 43 people who want to speak; and I think you are pretty unified in your position. So if you would, if you would briefly summarize it, we'd appreciate it.

MICHAEL MALONEY: Good morning.

ASSEMBLYMAN DeANGELO: Good morning, Mike.

MR. MALONEY: Is this on (referring to PA mike)? Can you hear it?

SENATOR SMITH: Mike Maloney.

MR. MALONEY: You should have one of those egg things so after one minute, you cut them off. So, going forward--

SENATOR SMITH: After a minute, you're cooked.

MR. MALONEY: I'm brief, so I'm going to be very quick.

SENATOR SMITH: Sure.

MR. MALONEY: Good morning, Chairmen Smith and DeAngelo, and Committee members.

My name is Michael Maloney; I'm the President of New Jersey State Association of Pipe Trades. I represent the skilled men and women who are proud to be plumbers, pipefitters, sprinkler fitters, and HVAC technicians in the State of New Jersey.

I'm here to provide a perspective on the value of retaining PSE&G Salem and Hope Creek nuclear power plants.

I'm also the Business Manager of Plumbers and Pipefitters Local 9, and our members have experienced a similar situation with the eminent closure of Oyster Creek in Lacey Township. The plant is slated to close in the year 2019, which is 10 years before the operating license expiration date. The plant provides roughly 7 percent of generation to New Jersey. The facility employs approximately 700 people, including several members of our Association, along with members of other trades.

When that nuclear power plant closes -- it has one more half-outage -- those jobs are gone, never to come back. The implications of plant closure exceed the narrow focus of my interest. The nuclear plant closure

has a ripple effect across the economy of Ocean County and the rest of the state.

I will recognize the implications of closure of Oyster Creek are different than those being considered today for PSE&G's nuclear power plants. However, it is important to recognize that the nuclear power plants in Salem County are several times larger than Oyster Creek; and the likely economic and environmental impact on the region and the state are multiplied as well. The nuclear plants of South Jersey have been one ray of good news and good jobs in an otherwise tepid economy. They have provided steady jobs throughout the year; and twice a year, during refueling outages, the plant calls an additional 1,000 contractors and workers to the site, many of them my members.

It will impact people well beyond those who lose their jobs. It will hurt New Jersey in lost wages and taxes. It will devastate local town budgets. It will impact real estate, and more people trying to sell homes than who want to buy them. You have heard of the tremendous benefits of these plants today -- the impact to the environment and their role in ensuring the resiliency and the reliability of electric; increased costs that consumers will pay if these plants go away. They are all good reason to keep these plants running.

However, when you're making your decision on the future of these plants, we want you to remember that you're also deciding the future of thousands of New Jersey workers who depend on those plants to provide employment; and that is the employment that allows these workers to pay mortgages, buy food for their families, provide an education or training for their children, and, in essence, stay in the State of New Jersey.

We believe that New Jersey needs nuclear, and we encourage you to find a way to protect consumers while protecting thousands of jobs.

Thank you, Mr. Chairman.

SENATOR SMITH: So let me ask all the other Labor members who are present.

Anybody disagree with him? (laughter)

UNIDENTIFIED MEMBER OF AUDIENCE: No.

SENATOR SMITH: All right; anybody want to say something different than Mike?

Yes, sir--

ASSEMBLYMAN DeANGELO: Buddy.

SENATOR SMITH: Buddy, go ahead.

WYATT EARP: Go ahead, Buddy.

KENNETH "BUDDY" THOMAN: Is this mike on?

SENATOR SMITH: Well, yes; but we're asking you to try to be focused. I think Mike made the point pretty strongly.

MR. EARP: While he's (indiscernible) up, let me just-- Real quick, it's about people.

You heard the money, you heard the environment -- how it would--

SENATOR SMITH: All right, that's Wyatt Earp speaking, for the record.

MR. EARP: I'm sorry; thank you.

And I will just say, because he hit briefly on real estate. Living in Ocean County-- I used to live on the water when my parents paid for it. Now that I'm paying for it, I can't afford to live on the water, unless I

wanted to move to Lacey Township. So in addition to the other stuff, you can buy a waterfront home in the \$200,000 range in Lacey Township today because they're closing the nuclear power plant, and those people are scared.

So, thank you.

SENATOR SMITH: Okay.

Buddy.

MR. THOMAN: Good morning, Chairman; Mr. Chairman -- both Chairmen.

Just to add -- in addition to what Brother Maloney said.

My name is Bud Thoman; I am the President and Business Manager of Local 94 of the International Brotherhood of Electrical Workers. I represent 3,600 members who work for Public Service Enterprise Group; 750 of those members work at Salem 1 and 2 and Hope Creek. And they provide power 24/7, 365, that's reliable and clean.

As a 14-year member of the Clean Air Council -- as you are aware, Senator -- I don't believe that New Jersey could meet its emission reduction targets without the continued operations of these nuclear units.

Thank you.

SENATOR SMITH: Thank you.

Any other member who wants to say something different?

Ciro Scalera.

**C I R O S C A L E R A:** I would like to just say that you had the CEO of PSE&G come before you and lay out a three-point approach that, from a public policy perspective, seems very reasonable and rational in terms of an

approach to deal with the potential shuttering of this plant. And I would urge this Committee to take a hard look at it.

SENATOR SMITH: Thank you.

And thank you, gentlemen, for coming forward today.

And if I can, Chairman, just to bring up another group and, hopefully, get more points of view.

The next group is Chamber of Commerce individuals. So Mike Egenton and Tom Bracken; Christina Renna, Vice President, Chamber of Commerce Southern New Jersey; Jim (*sic*) Jones, Salem County Chamber of Commerce; Phil Beachem, New Jersey Alliance for Action; and Jim Kirkos, Meadowlands Regional Chamber.

I assume everybody knows everybody; and I assume -- but I could be mistaken -- that you have similar points of view.

Let me turn to Mr. Kirkos -- to pick one -- Regional Chamber of Commerce.

Are you Mr. Kirkos?

**JAMES KIRKOS:** (off mike) Yes, sir.

SENATOR SMITH: All right; in a nutshell, where does your group stand?

MR. KIRKOS: (off mike) Well, we're in favor of retaining -- keeping the plants all -- conserving them. But I want you to think about three particular issues.

SENATOR SMITH: Sit by the microphone, then, please.

MR. KIRKOS: --that have not been addressed today.

Those issues are simply affordability, attractiveness, and competitiveness. And we cannot forget about those economic virtues of

what we need to concentrate on in New Jersey. Creating higher energy rates in New Jersey would create a competitive disadvantage for us here in New Jersey; we have to avoid that at all cost. And this trickles right into local communities' quality of life.

I'm not going to reiterate everything else that's been talked about from the environmental side, but we must remain focused on the power of New Jersey's economy if we want to deal with keeping communities strong, and a quality of life strong, competitiveness, affordability, and keeping New Jersey attractive to grow businesses.

Thank you, Mr. Chairman.

SENATOR SMITH: Thank you.

All right; differing points of view from our economic representatives.

Mr. Beachem, anything from you, sir?

**PHILIP K. BEACHEM:** Thank you, Mr. Chairman.

I'm Phil Beachem, New Jersey Alliance for Action's President. The Alliance has been around since 1974, and we focus on infrastructure and economic development.

And of course, this is an infrastructure and economic development issue.

Three points, real quick: One is economic; you heard all the testimony about the number of direct jobs. But I would suggest that the ripple effect on the counties where these projects are located is tremendous. It is not just the direct jobs that are going to be impacted, but indirect jobs in the economics of this region of the state.

Secondly, the mix. And I would reiterate what I was just said by one of the representatives from Labor. The closure of Oyster Creek needs to be considered in terms of the mix of the types of facilities that are providing energy here. That is a negative in terms of what the mix is.

And then finally, I would say that this is not an issue central to New Jersey. Other states are dealing with it, and we can learn a lot from those other states.

Thank you, Mr. Chairman.

SENATOR SMITH: Thank you.

Christina Renna, Chamber of Commerce Southern Jersey.

I assume you feel similar to the rest of the group?

**C H R I S T I N A R E N N A:** Yes, with just a few additional points, Chairman, if I may.

Again, my name is Christina Renna; I'm Vice President of the South Jersey Chamber of Commerce. Please excuse me, I have a bit of a cold; I'm not on the verge of tears. (laughter)

However, we represent the seven-most southern counties of Southern New Jersey, from Burlington County all the way down to Cape May County. And this issue is so important to our organization that our Board did form an ad hoc committee not just to study the issue that we are seeing nationally and has been discussed here in great depth; but also any potential legislation that may or may not come out of today's hearing to study this issue specifically.

I personally have toured these plants upwards of five times in my cumulative seven years at the South Jersey Chamber of Commerce. I have personally met the 1,600 current direct employees who are at those



plants. And it is not shortsighted to say that, in many ways, these two plants are the backbone of the Salem County economy. And Salem County is not a rich county; it's, in fact, one of the poorest counties here in New Jersey, and it neighbors my home town county, actually, Cumberland County, which is the poorest county here in the state.

So the ripple effect of these two plants going offline, and the potential of 1,600 direct and possibly upwards of 6,000 indirect, jobs going offline, then trickles even greater to the human impact of joblessness in the region. And then your grocery stores, where people stop on their way home from work, go out of business; and the daycares that are being used by employees go out of business, etcetera, etcetera, in some of the hardest hit areas of New Jersey right now.

I just want to say one other thing, which is that here in South Jersey, if you look at the region, we are sort of bookended by Camden, that is obviously seeing a rebirth; and Atlantic City, which is doing extraordinarily well. And so with these plants going offline -- God forbid that should happen -- it would really hit the regional economy directly in the gut and just completely be devastating to the region.

So I want to thank this Committee for looking at all sides of the equation; not just the dollars and the cents, not just the pro-or anti-energy policy today. But also hearing from us around the table about the human impact that these plants going offline could potentially have.

So thank you very much, and I would just implore you to continue to think creatively for a solution. As we see this nationwide trend continue here in New Jersey, let's try to find a fix for it.

Thank you very much.

SENATOR SMITH: Thank you.

Jim (*sic*) Jones, do you disagree with any of that? (no response)

Is Mr. Jones here, Salem County?

**JENNIFER JONES:** (off mike) That would be me.

ASSEMBLYMAN DeANGELO: Oh, it's Jen Jones, I think.

SENATOR SMITH: Oh, I'm sorry.

MS. JONES: Jennifer.

SENATOR SMITH: Jen Jones.

MS. JONES: Jennifer Jones, yes.

SENATOR SMITH: All right; I'm sorry. Very tough to read that first name. (laughter)

MS. JONES: That's okay.

SENATOR SMITH: Jen, you're in agreement.

MS. JONES: I am in 100 percent agreement.

SENATOR SMITH: Thank you. (laughter)

MS. JONES: Do I get to say--

SENATOR SMITH: I have to do that, because--

MS. JONES: Do I get to say more--

SENATOR SMITH: I want to make sure everybody gets a chance.

And by the way, if you are going to speak, you always have to be at a microphone; otherwise it doesn't get recorded.

I mean, I think we've heard the list of the terrible things that happened in the area, to both employees, the towns -- everybody.

If there's something that you have totally different that you want to say, we're happy to hear it.

Is there anything totally different from that?

MS. JONES: (off mike) Just--

SENATOR SMITH: You have to be at a microphone if you're going to speak.

MS. JONES: Okay; so do I need to move forward?

SENATOR SMITH: Yes, yes, yes. Just push the other guy right out of the way; just push him out of the chair.

SENATOR BATEMAN: Well, Tom Bracken wants to speak also.

MS. JONES: Thank you.

Okay; all right. So how do I turn this on?

UNIDENTIFIED MEMBER OF AUDIENCE: Just hit the button.

MS. JONES: Just hit the button; thank you.

Thank you very much.

I just wanted to add the perspective of-- You know, Christina touched on it a little bit when-- Salem County is probably the most rural county. We do not have more than a handful of large employers. So those large employers are predominantly what are supporting the small businesses. And you know, my Chamber -- it's the Salem County Chamber of Commerce; I represent 400 businesses. But most of them are mom-and-pop shops. Recently, Ardagh Glass, which had been open in Salem County for 150 years, closed. When it closed, our local grocery store went out of business because we didn't have the jobs there to support that store. So I can't even imagine what it would be like if PSE&G wasn't there anymore. You know, they not only provide living incomes and wages to thousands of

families, but they also participate in our community in nontangible ways. You know, I've always been fortunate enough to have a PSE&G leader on my Board of Directors, as do Meals on Wheels and Habitat for Humanity. So it's not just the monetary; it's the intangible.

And I hope you'll give serious consideration to supporting this proposal.

Thank you.

SENATOR SMITH: Thank you.

And the gentleman sitting to your right -- or to your left--

**T H O M A S B R A C K E N:** Yes, sir; Mr. Chairman, my name is Tom Bracken. I am the President of the New Jersey State Chamber of Commerce.

I totally agree with what everybody said; I'm not going to reiterate any of those points. They are all valid; they stole all my thunder.

One comment I would make, which is that we can't look at this without looking at the big picture. The big picture here is, we are talking about the utility industry of New Jersey, which has always been at the center of the State's economic growth initiatives. Utilities have always been among our best corporate citizens. They have always stepped up when asked; they have exhibited great customer focus throughout their history. They've worked to make the state a better place to live and work, and they have been extremely philanthropic.

And without having our utility industry companies strong, going forward, and to be as consistently thoughtful and concerned as they have been, we're going to have a major problem with growing our economy.

And if we do not grow the economy of New Jersey, I think the future of our state is in big trouble.

So this is a plug to look at all the energy initiatives we have in the state holistically, and make sure that we come up with the best solution for all of our businesses and citizens.

Thank you very much.

SENATOR SMITH: Thank you.

ASSEMBLYMAN DeANGELO: I don't have anybody else in--

SENATOR SMITH: I think we have that group covered.

ASSEMBLYMAN DeANGELO: Right; so ladies and gentlemen, I think we're at -- past the halfway point right now, and we're going to move to those who are not supportive, or have concerns.

Everybody who is out there, put a piece of paper out here with their name and the organization they're with; and whether they're in favor or opposed, and if they wish to make testimony.

If I can ask everyone who has no need to testify-- The relevance of this paper is very important. Everybody gets a copy of it; your name and organization will be read into the record, and it is favorable to put in "no need to testify" if you have similar views as other organizations.

So with that being said, Mr. William Harla, from New Jersey Coalition for Fair Energy, please come forward; he's in opposition.

Mr. Harla, please proceed.

**W I L L I A M H A R L A, Esq.:** Good morning, Chairman Smith, Chairman DeAngelo, members of the Joint Committee.

My name is William Harla; I'm an attorney at DeCotiis, Fitzpatrick, Cole & Giblin; I represent the New Jersey Coalition for Fair

Energy. It's a Coalition composed of independent power producers, specifically NRG Energy, Calpine, Dynegy; and the Electric Power Supply Association, which is a trade association for independent power producers.

These companies, which have been noted, compete against PSE&G; but they also compete against each other to generate electric power in the open marketplace.

We're opposed to the legislation because we -- well, to the proposals discussed today, and if it results in legislation -- because we believe the proposal will distort the marketplace, and create an unfair advantage and an unlevel playing field that would benefit one company over another.

We oppose this idea for reasons of process and substance. So today I think it's probably more important to focus on the process.

As noted, the plants are profitable; they are not in immediate risk of closure. There is no immediate risk of job loss.

Today's a good time to start the debate; but the issues are very complex, the repercussions have been unexplored and undocumented fully. And to address this issue in the waning days of the legislature seems a rush to judgment.

Chairman Smith, we believe you had the right idea last May: Let's look at this carefully and thoughtfully in a more organized way, perhaps as a BPU study. In the absence of immediate harm to these profit-making plants, we believe there should be thoughtful consideration given in a comprehensive way to look at the cost of what PSE&G is seeking, the impact on the State's electric markets, the impact on the state's business climate, and the affordability of living and doing business in New Jersey.

PSE&G has been very quietly discussing this matter with its investors and shareholders for over a year. Today's the first day that we've heard the details of the plan. And as our, perhaps, most respected and oldest corporate--

SENATOR SMITH: Could you tell me what those details were?

MR. HARLA: Excuse me?

SENATOR SMITH: You said today was the first day we heard of the details of the plan. What details?

MR. HARLA: Well, just--

SENATOR SMITH: Because I am unaware of them.

MR. HARLA: Well, just to the extent that Mr. Izzo spoke about some type of phase-in or safety net.

SENATOR SMITH: Oh, okay.

MR. HARLA: That's what I meant.

SENATOR SMITH: Okay.

MR. HARLA: Beyond that, no. Chairman, as you pointed out, we have not seen a bill, and so we don't really know the details. And the devil, of course, is in the details.

So this is a rather large issue; we don't know for sure the cost that might be involved here. In Illinois, using that model, we've heard the number of \$450 million a year. It sounded, from what Mr. Izzo testified to this morning, like it may be cheaper. But the fact is, we just don't know. And we believe there should be a fuller examination of emergent solutions. The Governor-elect has talked about joining RGGI. PJM has made some

proposals; those will help the nuclear facilities. And Mr. Izzo himself mentioned efforts at the Federal level.

If these solutions are not explored or given a chance to work, we may find ourselves here a year from now wondering if we've imposed too much of an economic burden on New Jersey's ratepayers. We may be looking back and saying we jumped the gun to resolve a very complex issue that may resolve itself, at some level, among the region's ratepayers.

So we ask you to certainly start the debate; but to allow that debate sufficient time to happen, in a comprehensive way. And to seek the input of the incoming Administration to ensure that the proposals, which were initiated today, fit into the incoming Governor's wind and solar initiatives.

Lastly, in concluding, I would remind us of some historical facts. This issue should not be resolved in an historical vacuum. So in 1999 and 2000, PSE&G led the charge to deregulate the electric market. And as many of you are well aware, PSE&G received billions of dollars to help facilitate its transition to a deregulated market.

So the proposal to subsidize the nuclear facilities today is, in essence, a re-regulation, to some degree, of that deregulated market.

Finally, in concluding, one last bit of history. Many members of this Committee will remember that the Legislature and this Committee, Chairman Smith, considered some legislation to subsidize the construction of new power plants through guaranteed loans; I think the acronym is *LCAPP -- Long-term Capacity Agreement Pilot Program*. The Federal courts ultimately determined that that legislation was an illegal intrusion upon FERC's regulatory authority over the wholesale electric market. The



members of my Coalition that I represent -- NRG, Calpine, Dynegy, and the Electric Power Supply Association -- all opposed that legislation. They opposed it because it created an unfair and unlevel competitive electric market. We are consistent; we opposed that legislation then, and we oppose the proposals being made today for the same reason.

And I just want to take the last 30 seconds and just remind everyone here of what PSE&G said six years ago when imposing that subsidy legislation.

They said, and this is a quote; this is from one of their press releases issued in, I think, it's January 2011.

"This is essentially an energy tax that will cost New Jersey residential and business customers more than \$1 billion."

Here's another quote from the same release. "Customers have been put through this before with disastrous results for customers."

"The resulting customer surcharges will have long-term impacts. Subsidies are a slippery slope and will drive away other nonsubsidized private investment in New Jersey."

"This Bill is trying to fix a problem that does not exist."

And lastly, "It is best when investors, not government, determine when new generation is needed, where it is built, what technology to use, and what price to pay."

Those quotes were from PSE&G. The issues are the same. We agreed with PSE&G back in 2011; PSE&G was right in 2011, but they're wrong today.

SENATOR SMITH: Thank you for your comments.

Jim Benton, New Jersey Petroleum Council.

**J A M E S B E N T O N:** Chairmen, members of the Committee, my name is Jim Benton; I'm the Executive Director.

With me today is my colleague, Scott Ross. We represent the energy industry in New Jersey, those nonregulated companies that are engaged in exploration, production, pipelines, and commercial operations in New Jersey.

We agree with much of the testimony that has been delivered to this point. We do believe that energy will underpin our economic growth; all forms of energy, not just energy from the utility industry.

We do believe, however, and strongly believe that energy markets do change; they do not move in a straight line. What predictions there are regarding future predictions of change are, maybe, misplaced and misguided, and often give incorrect signals.

We believe there are flaws in the energy marketplace that do need to be addressed by this Committee, and other committees like it; because, candidly, they may give incorrect signals. We believe there is much on the plate to be considered and studied -- whether it's the RGGI initiative that has been discussed, whether it's the PJM action, U.S. DOE -- all of which we have appropriate comments on. This is a most complex study.

We do believe also there should be consideration of emergent technologies. For example, if a new technology were to come along -- perhaps right here even in New Jersey -- where does that lead us in terms of requests for future subsidies?

The point is very clear; this is a most complex issue, one that deserves and demands considered, reasonable judgement with all facts and

materials on the table. To simply point to a case study in Illinois or a case study in New York as evidence of the need to move forward in an expeditious way for a state like New Jersey, ignores the reality of other competitive states, states that New Jersey does business with -- like Ohio, like Pennsylvania; that is, set aside in considering the reality of this type of an initiative.

We believe this judgement should be in place and left to those instruments that have been created -- whether it's the Board of Public Utilities, whether it's PJM, or some type of Federal issue. We believe that all energy providers -- electric energy providers need to compete in a way that is productive for the residents, for our business interests, and for those in New Jersey who do benefit from cheaper, affordable electric prices.

Competitors will continue to invest in New Jersey. At present, BP is building a new electrical energy generation plant in Woodbridge Township. Right down the road is a ratepayer plant, natural gas, from PSE&G -- the same company that's here before you today to ask for subsidies, or consideration of a framework, on relieving the marketplace distortions.

The point of it is, competition is working to provide electricity for New Jersey in a way that is constructive and will be continuing to be constructive.

I thank you for your time, and I'd be happy to answer any questions.

ASSEMBLYMAN DeANGELO: Thank you.

Next up, if I can have Dennis Hart, from the Chemistry Council; in opposition.

**DENNIS HART:** Good morning, Chairmen and Committee.

I've submitted my written reports to you, so I'm just going to speak from the heart, as directed.

My name is Dennis Hart, Executive Director at Chemical Industry Council of New Jersey.

The Chemistry Council of New Jersey represents the pharmaceutical and chemical manufacturing industries in New Jersey, the second-largest economic engine driving New Jersey's economy. We employ 50,000 direct employees, and hundreds of thousands of indirect employees, with \$67 billion worth of economy flowing through New Jersey through this industry.

I want to say from the beginning that I object to Mr. Izzo's opening statement -- that opposition to this idea comes from well-funded competition. I'm neither *well-funded* nor *competition*. We represent the manufacturing sector. The manufacturing sector pays 54 percent higher, on average, electric bills for power in New Jersey than our competitors around the country; 54 percent, currently, we pay higher in electric bills. Any increase in those bills will have a direct impact on manufacturing in New Jersey. It will have a direct impact on output, direct impact on income taxes, State taxes, impact on decision making. Around the world, around the country, and around New Jersey corporations are looking to New Jersey as to, "Should we move to New Jersey; should we invest in our existing plants; or should we move out, move to a state that's more competitive?"

Actions to increase the subsidy will only make the decision making easier for people *not* to invest in New Jersey.

The last subsidy given to PSE&G -- the subsidy that Bill Harla talked about -- granted billions of dollars over a 10-year period. Many of our members paid an additional \$500,000 to \$700,000 per year in a subsidy, besides their regular electric bill. Not having any details -- like the Chairman spoke about, what we're talking about today -- I don't know how to judge what any nuclear subsidy would be on our membership. All I'm left to say is, it wouldn't be good.

So as we go forward, I think we need to realize that what's going on around the country in nuclear power being noncompetitive -- what happened in New York, what happened in Illinois -- is directed at at-risk nuclear power plants. Not all the power plants in Illinois, not all the nuclear power plants in New York -- the ones that are at-risk. And I would argue that PSE&G's Salem plants are not at-risk. They have three facilities there. Mr. Izzo talked about if you shut the facilities down, the price of electricity will go up. Well, any open analysis that's going forward in here should look at, what if we closed one facility down? The price would go up, you're still creating nuclear power, we're still getting the benefits of clean air -- not as much.

Those are the kind of things we need to look at because, a year-and-a-half ago -- this conversation has been going on quietly for about a year-and-a-half. In an investor call last year, Mr. Izzo told the investors on the investors' call that he's going to have difficulty making the sale in New Jersey, similar to the sale in New York -- and when I say *sale*, the subsidy in New York or in Illinois -- because his plants were profitable. They were profitable then, this past year, as they bit into the PJM grid recognizing resiliency. They were awarded an even higher electricity price this year.

Now, am I sitting here, blindly saying that they're not suffering from competition from natural gas? Of course not. But they also buy natural gas, they sell natural gas, they distribute natural gas, they make electricity from natural gas. So everything needs to be looked in the totality of this utility. This utility--

I want to say something about something Mr. Izzo said in his statement. He said the utility was not earning the cost of capital. That sort of just went out into the ether. The *cost of capital* means that it's not returning as much of an investment as he could make investing it somewhere else. Not that it's not profitable; that it's not earning the cost of capital. Well, PSE&G is not a hedge fund. They are not there to invest money to make money; they are there to provide daily power when the citizens of New Jersey need it. So if they make 2 percent instead of 5 percent, that should be acceptable to the policymakers. It shouldn't be acceptable just to say, "Whatever the investors need from New Jersey, that's what we're going to give."

So for that reason, we look forward to an open dialogue on this issue; it's of monumental importance. I'm not discounting the utilities' fear of the competition from natural gas. I worked a long time in DEP; I understand all the environmental issues. I am not disagreeing with any of them. But just from a standpoint of New Jersey's economy, from the men and women who work in our manufacturing lines -- our high-paying lines; our pharmaceutical industry, which is of utmost importance to this state -- this needs a really detailed, open dialogue, and we are more than willing to participate in any way we can.

Thank you, Mr. Chairman.

ASSEMBLYMAN DeANGELO: Thank you.

SENATOR SMITH: Thank you.

Tom Rumsey, CPV; Competitive Power Ventures, Inc.

And you also have a statement that's in the record as well.

**T H O M A S R U M S E Y:** Yes, I do have one in the record.

And good afternoon and good morning, Chairmen and members of the Joint Committee.

To keep things moving, I will not read any of my statement, but I do want to make a couple of points. And I do -- we have other generator companies coming in. But we have a unique position -- perspective.

In 2013, we invested \$845 million of private capital in New Jersey in our Woodbridge Energy Center. That created over 500 union jobs; and you hear a lot about the secondary and tertiary job effects. A lot of what you've heard today seems to assume a static industry and market. It is not a static industry and market. We are currently looking at another project in New Jersey. So these job losses, this concept that if you lose these plants, electricity prices are going to go significantly higher, just simply doesn't make sense. How can a subsidy help you lower costs when competition has done that for this state, and for any other competitive state?

Mr. Izzo said that PSE&G is profitable for the next couple of years. My salient point that I'd like to make is, this is a significant departure from the current market structure. This will impact further private investment. As the State looks to build renewables, you need technologies that can balance those renewables, which are flexible. Nuclear

plants are not flexible. This is an incredibly large departure from the competitive market structure, and that also is a very dynamic system.

New York/New Jersey is looking to rejoin the Regional Greenhouse Gas Initiative; that will add significant revenue to these plants. And there are significant modifications being made, or proposed, to the price formation in the PJM system. That will also reward these plants.

My point is, they've said they have a couple of years of profitability. We need to take that time to see what these market evolutions will do and what profits that will add to their bottom line before we give them a subsidy. There is no reason to rush through a lame duck session with a bill that we haven't had an opportunity to evaluate. There is too much at risk in future investment, there's too much at risk from manufacturing jobs that you've just heard, and there's too much at risk for those of us who want to continue to build and invest in New Jersey.

I'd be glad to take any questions; if not, I will cede my chair.

ASSEMBLYMAN DeANGELO: Thank you.

MR. RUMSEY: Thank you.

ASSEMBLYMAN DeANGELO: If I can have Mr. Joe Bowring, an Independent Market Monitor.

Joe; sorry if I mispronounced your last name.

**JOSEPH BOWRING, Ph.D.:** Thank you.

Thank you for inviting me today. It's Bowring (indicating pronunciation), actually; but I appreciate it.

So I am the Independent Market Monitor for PJM. I don't speak on behalf of PJM; but as Market Monitor, our job is to try to make sure that the PJM markets remain competitive.



PJM markets are large. As you know, PJM operates a centrally dispatched grid, which covers 13 states and the District of Columbia plus New Jersey; about 183,000 megawatts.

So New Jersey exists in part of a larger market. New Jersey made a choice, back in 1998 and 1999, as did many of the other states in PJM, to use competitive markets rather than regulation -- process-service based regulation in order to manage the costs of power. The goal of competition -- and PJM has a competitive market -- the goal of competition in PJM markets is to provide power to customers at the lowest possible cost. And it is doing that.

Prices in PJM are not too low; the cost of gas is not too low. There is no problem in the basic PJM market design or price formation.

The PJM market also manages exit and entry effectively and efficiently. There have been 20,000 or 30,000 megawatts of generation that have left PJM. There is a comparable number that has joined PJM -- entered PJM, in response to price signals. The market is working.

But particularly in times of stress -- lower prices, for example, on particular technologies -- there is always a temptation to rely on experts who think they know better than the market to tell you how to plan the market. And there is-- If you remember back before the market, utilities in New Jersey and elsewhere relied on integrated resource planning, which was trying to figure out what was best for everyone -- trying to decide the nature of the appropriate technology, rather than relying on markets.

In New Jersey, in particular, there has been exit and there has also been entry of new power plants. And despite the fact that some of those new power plants claim they needed subsidies initially, they realized

that they really didn't; and those gas-fired power plants were built without those LCAPP subsidies.

Is there a current issue facing the nuclear power plants in New Jersey? The answer is "no." Based on the really simple math-- If you think about it, the cost of nuclear generation -- including capacity costs, which are probably somewhat overstated -- based on the Nuclear Energy Institute, are about \$31 a megawatt hour. The price in PJM for the year ended -- the average price, overall price, in PJM for the year ended September was about \$27; the energy price. Capacity prices were about \$10. So that's \$37; \$37 is greater than \$31, revenues are greater than costs. There is no urgent need to act. These units are not facing a retirement signal from the market.

Subsidies are contagious; you've heard that today. Part of the reason that subsidies are being talked about in New Jersey is because they've been talked about in Illinois and New York. Both of those, currently, are subject to a legal challenge. But whenever a unit -- an economic unit is subsidized, it tends to suppress the price for other units, and makes the need for subsidies higher.

Competitive markets are introduced as an alternative for regulation. They've been very effective.

Just a couple of points in response to other things that were said today.

At the moment in New Jersey -- as elsewhere in the United States -- in PJM, there is no policy on carbon. If society decides -- if you all decide that carbon is a pollutant, economists recognize that the most straightforward way to handle that is not through subsidies, but through a price on carbon. You have the option of joining RGGI; PJM, as a whole,

has the option of having a carbon price. If the states in PJM decide to do that, that will address carbon. But simply subsidizing particular units in the name of carbon is not an effective or efficient way to proceed.

Again, in conclusion, there is nothing wrong with PJM pricing; PJM markets are working fundamentally correctly.

Thank you for the opportunity to be here.

SENATOR SMITH: Thank you.

Mary Barber, Environmental Defense Fund.

**MARY BARBER:** Hi; good morning.

Thank you.

My name is Mary Barber, and I'm the Director of the New Jersey Clean Energy Program for the Environmental Defense Fund.

And I will also try and-- You have my testimony, and I'll abbreviate it, based on a lot of what's been said.

Senator Smith, you really captured a lot in your opening statements about all that's going on in this environment and what we're seeing around the country with other states moving forward to subsidize nuclear plants. And I guess I would just begin by saying there are legitimate reasons to be concerned about the premature retirement of the plants, including the loss of low-cost emitting resources before the transition to a clean energy economy can really be complete, the loss of jobs, the loss of the contribution to the tax base. All of those are really legitimate concerns.

But the thing is, we need -- as Senator Smith laid out, we need to take our time. This process is just simply too rushed, and it's too complex an issue, and there's too much to consider around all of those issues.

Right now, the way it's being considered, is really looking at PSE&G and what their claims are in isolation, without looking at all of these different very important issues; and frankly, without having the data and the information, which has not been shared publicly or transparently for anyone to really understand the actual situation.

So one thing I will say-- And we know that they've already acknowledged that they've made comments before FERC. We need to make sure that there's no double-dipping here, looking for both State and Federal subsidies.

There's also a proceeding underway at PJM.

So we heard about other states, Illinois and New York. EDF actually has engaged on this issue in other states where we've worked to ensure that retiring nuclear plants are replaced by clean energy; and where we have supported subsidies for existing nuclear power plants for a finite period of time; and if these plants are otherwise going to be replaced by polluting generation, like coal or natural gas. And so we need to really have the analysis of the market of the plants to understand that.

So best practices to address these issues are beginning to be clear. The demonstration of financial distress -- the plants need to open their books; and narrowly defined subsidy, with eligibility criteria that reflects the electricity wholesale market price, as well as any cost of carbon. The subsidy program is time-limited; and a large scale emission reduction program, including the acceleration for the adoption of clean energy; including energy efficiency, renewable energy, grid modernization, and peak-demand reductions must be part of anything that moves forward. And

of course, commitments to address worker and community transitions on the glide path to plant retirements.

One quick story that was referenced -- I do want to say about Illinois, which kind of is illustrative.

When Exelon first came to the state, looking for a bailout for their six plants -- that's what they wanted: a bailout for six plants. After a process -- a long process, actually; not saying any process needs to be that long, but a long process -- at the end of the day, when they created their zero-emissions credit and had financial analysis independently verified, two of those six plants actually were deemed eligible for subsidies. So I think that's a really important story for us to think about.

Let's take a step back and pause. The plants are profitable; PSE&G acknowledges that they're profitable. They're not closing tomorrow. Let's take the time, step back -- not through a rushed, lame duck session -- to really evaluate all the issues in a responsible way.

Thank you.

ASSEMBLYMAN DeANGELO: Thank you very much.

Next, if I could have Michele Siekerka from the NJBIA.

Michele, you've changed.

**SARA BLUHM:** Yes; very much so.

Sorry, Mr. Chairman, but Michele is delivering the results of our business outlook survey right now. So if the Committee will indulge me.

Sara Bluhm, NJBIA; and I appreciate the opportunity to speak from the heart of business.

NJBIA represents companies that employ more than a million people in the state. And as you are all aware, we are a high-cost, high-tax state. And so when we're looking at something like this, BIA looks at it through the lens of affordability and competitiveness.

And as you've heard today, energy is definitely a regional issue for all of us. We are in a regional grid; the power flows back and forth. And likewise, we also see our workers flowing back and forth; we see our jobs flowing back and forth. And so we're trying to look at how can we keep New Jersey the most competitive and as affordable as we can.

And absent that, the State is looking at how can we also have reliability and affordability here. This is definitely a complex issue; it requires a process to follow, and vet, and have the analysis be fully understood so that we can also understand the economic impact.

But I think that it's also helpful to look at how much of an energy revolution we've been going through for the past 20 years. And if you look at where we were in 1997, when we first started discussing deregulation, and where we are today, it continues to be a dynamic process. Our energy mix has changed; technological advancements have allowed us to be more energy efficient; and some of those things have impacted baseload power. We've also had a change in our economy, too, that has shifted our load growth. And if you look at, also, just from where the State has been -- in 1997, we had to import our power; today, we're able to export power. And that has created different issues, as I said.

But we also, today, are having our response being looked at, at FERC, PJM, and other states. And so we have to take that into consideration as well, too.

But I think, ultimately, where we're looking at this from is that over that time period we've also had an increase in cost. And how does that impact the ratepayer?

Well, as many of you have heard me say, time and time again, business consumes 64 percent of the electricity in this state. We are the majority ratepayer. And so how has that been impacted in this time, too?

Well, we've had different fees added on to our bills over that time period, whether it was the Transitional Energy Facility Assessment charge; the Societal Benefits Charge, the Retail Margin Adder -- things like that. And I can say that, for the past decade, I fought very hard to get it from 27 percent down to 24 percent of your bill as government-imposed taxes and fees. And I think that number is important, because I'll come back to it in a little bit.

But then when we look at the price of a kilowatt hour, it has also gone up. The commercial customer had seen 10.35 cents per kilowatt; we're now at 12.39. Industrial went from 8.11 to 12.23. So how is that impacting our competitiveness and our affordability, when we're the most expensive state in our grid? And how will any changes to that be?

So as we look forward and look at solutions, obviously we would like this addressed on a regional level. And we're encouraged that PJM and FERC are looking at this. But New Jersey ratepayers can't pay for this alone, and I think that's an important point.

But then we also want to look at, how can we keep ratepayers net-neutral in this? And so is it that we need to start adjusting that 24 percent of government-imposed taxes and fees; is that where we could see

an offset? What kind of process can we have to make sure that the ratepayers are going to be protected within this?

And then, if we are going to have a solution, I think we need to look at it -- a State solution should be temporary in nature; there should definitely be an expiration, if a national or regional policy were to go into place; and an established time period, so that we know when this could be ending.

The TEFA tax, that I alluded to earlier, was supposed to be a temporary tax, and it stayed in place for over 10 years. So ratepayers need to know when something could be coming off of their bill and when they could be seeing relief.

And then, also, if there's going to be other subsidies that are eligible, such as the PJM Reliability Must Run, or if we go back into the Regional Greenhouse Gas Initiative, those are other things that should not be given on top of something such as this.

And the solution should also expire if the economics triggering its need no longer exist.

But we also need to look at this in terms of the affordability to ratepayers. And as I said, if this was for 64 percent of the consumer statewide, but perhaps they are the majority consumer within one utility, how does that impact it? How does the business within our state get impacted for their consumption? And how does a price impact, impact the number of companies still here? Will you see a loss in your business ratepayer or not? How will the overall impact New Jersey's economy given any one alternate over another? And what is the competitiveness of New



Jersey businesses, versus other states, if we see changes in our electric pricing?

And to conclude, I would just say that we need to make sure that there are ways to mitigate potential cost increases. And we need to look at things, such as exempting manufacturing from the sales tax, perhaps. How can we make sure that this is net-neutral if any policy is put in place, and make sure that we have a process in place so that we can understand the full economic impacts?

Thank you.

ASSEMBLYMAN DeANGELO: Thank you, Sara.

SENATOR SMITH: Thank you.

Steve Goldenberg, New Jersey Large Energy Users Coalition

**STEVEN S. GOLDENBERG, Esq.:** I can be the first to say, “Good afternoon.”

My name is Steven Goldenberg. I am an attorney with Fox Rothschild, and I represent the New Jersey Large Energy Users Coalition, which is comprised of some of the state’s largest businesses and consumers of electricity and natural gas.

Just on a procedural note, this is a very serious issue. And the presentation that’s been made to you on behalf of the proponents of any action are treating it as a very serious issue; and it should be. It hasn’t been, up until now. We sit here; we’re already in the lame duck session of the Legislature. There is no bill, there is no plan, there is no procedure that we’re aware of. We have been trading on rumors of what is or isn’t going to happen for weeks now, and it’s totally unnecessary. This is complete gamesmanship.

I congratulate PSE&G on a legislative strategy, if this is the way they want to do it. But it's unfair to everybody else sitting in this room. This is an issue that's been here for a long time. We have been hearing for months about the need to value the carbon-free characteristics of their nuclear power plants; which is a legitimate issue, and I'm not minimizing that. But as they sit here today, PSE&G is one of the few companies that I am aware of that's backing a Trump Administration initiative that would provide subsidies to carbon-belching coal plants.

We have to be serious about this. I understand that they have obligations to their shareholders, and I'm not critical of them for that. However, your duty is somewhat different. Your duty, I submit respectfully, is to your constituents, who could be very harmed by this bill -- which may or may not be a bill -- if it's not handled properly.

As we understand it, PSE&G stands poised to receive upwards of \$3 billion to \$4 billion that is to their sole benefit, collected essentially as a tax; not payable to the State for any State purpose, but to a single, successful company to the detriment of literally of everybody else. And that's objectionable.

Now, in keeping with your topic -- and I will try to cut down, because some of what I wanted to say has been said already -- the State should not be correcting market issues. That is not for you to do. It's not for the State of New Jersey to pick winners and losers in the interstate markets, or in the wholesale markets. So I do take issue with what Mr. Izzo said before -- that we need to correct market flaws. That was the quote I took down. That is not your job. What you have to do is defer to FERC; you're supposed to defer to PJM. They are currently considering these

issues -- whether it's valuing carbon, whether it's grid reliability. The need for nuclear subsidies -- as we sit here today, these issues are being handled by the proper authorities. And with all due respect, that is not what we're supposed to be doing here. And we've been told that before.

For those of you who have been here for a while, just going back to the LCAPP law that was referenced earlier -- the purpose of that law was to provide subsidies for a select class of generators to develop power plants for reliability purposes. Sounds very familiar. The reliability part is now back in play; that's what the Federal initiative is looking at. PSE&G opposed that bill. They opposed it first in Federal court, where they got a ruling that that kind of subsidy was preempted by the Federal Power Act; that was a ruling that was affirmed by the Court of Appeals; and ultimately, it was affirmed by the United States Supreme Court.

So you need to recognize, as you sit here, that there is a great legal cloud that hangs over all of this, based on a precedent that they created, that says you cannot pick winners and losers, you cannot adjust wholesale market prices; it is not for you to do. You've been preempted by the Federal Power Act.

Another important issue that I would address is the need for them to make financial disclosures as a condition precedent to getting any relief at all. I've heard today, for the first time, a little bit of detail that maybe, in two years, they will be losing money. What we heard up until now was, "Well, we're making money, but it's not enough."

I can assure you that that kind of argument is meaningless to the companies that I represent, because nobody every makes what they

want. And they are not in a position to get the sort of bailout that PSE&G is asking you for here today.

This is basic. Anybody who goes for a car loan has to provide more information than I think they've given. And I've spoken to a number of you. You haven't seen a bill; you have no idea about financial disclosures; you don't know when losses are going to begin; to what extent the company will have losses; whether the relief they're seeking is any way equal to the losses that they say they're going to sustain; or whether it's just a potential area of windfall profits in the future.

And that's important. When they say they're going to lose money in two years, is it a million dollars a year? Is it \$100 million a year? We think we know what they're asking for; they're asking for a lot of money. I think we have an absolute duty, to everybody who elected you and put me here, to make sure that what we do is right. And that's a big problem.

I've been here before. I was involved in the restructuring of the electric and gas industries in 1999. I litigated the stranded costs issue, and I helped Rich Bagger draw up the restructuring law. So I speak with a little bit of authority when I say that what you're hearing from the company is reminiscent of what we heard back then. "Now we're going to a competitive marketplace; we're concerned that we're not going to be able to recoup our costs. We're going to get hurt, and we need your help."

After litigating that issue for six months -- with testimony, with experts' reports, with briefings -- we decided it was appropriate for them to get \$3 billion in stranded costs. It's a lot of money. And the way it was written into the restructuring law -- that was irrevocable. We couldn't take

it back. But what we found very quickly was that these plants were making a lot of money in the competitive markets, and if you look back to the financial reports of PSE&G during that period, you'll see that these plants were the economic driver of the Public Service Enterprise Group for 10 years. The problem with stranded costs was, ratepayers were still on the hook to pay those \$3 billion. So we had a company that's making windfall profits on nuclear power plants because their cost level was down here (indicates), but the price of natural gas was up here (indicates) at the time. And they were getting all of that differential. It was really sweet work to get at the time.

Now that the market has turned on them, now they have a different attitude; and we have to keep that in mind.

I also wanted to give you a thought of what it means when you pay \$3 billion in stranded costs. My members, on average, paid between \$30,000 and \$100,000 per month for a 15-year period in stranded costs that were nonexistent. This was a wealth transfer between my businesses and PSE&G. And if you want to look at the issue of jobs and the potential for job losses, you have to look past what's presented today. You have to look to the companies that I represent, and other companies represented in this room, to know that when you're paying upwards of \$10 million over a 15-year period to a company for nothing, and you're dealing with companies that are interstate that have to answer to managements that deal with jobs; that deal with who's going to produce a product line; that get involved in, are there going to be capital investments made in New Jersey. These things hurt.

SENATOR SMITH: Steve, can you sum up?

MR. GOLDENBERG: Sure.

SENATOR SMITH: A lot of people want to speak.

MR. GOLDENBERG: It's not done in isolation. There is so much more money that's in the hopper right now for PSE&G, we really need to be very careful with this.

And I thank you for your time.

SENATOR SMITH: Thank you.

ASSEMBLYMAN DeANGELO: Thank you very much.

MR. GOLDENBERG: Thank you.

ASSEMBLYMAN DeANGELO: Next up, if I can ask Mr. Ray Long from NRG to come forward.

Ray, we have your testimony; and thank you -- if you can just summarize topics on that.

Thank you.

You are "hot;" red's good (referring to PA microphone). Very good.

**RAY LONG, Esq.:** Got it there.

Mr. Chairman, thank you for the opportunity to come here today.

My name is Ray Long; I'm Vice President of Government Affairs at NRG Energy.

I think, as a number of you know, NRG is a New Jersey-based company. We're right up the road on Route 1 in Princeton; we have a beautiful new building there that we just moved into in 2016; state-of-the-art. If any of you ever want to come by and see all the bells and whistles on

an energy -- on a LEED Platinum energy building, I'd be happy to host any of you there.

You've heard a lot of testimony already that I was going to talk about. So I'm just going to try to summarize and take any questions that you might have.

So put simply, you've already figured this out: We're opposed to the legislation.

I've worked on these issues in many states; I can tell you that, like you've heard previously, the reason we're opposed, quite simply, is it disrupts marketplace that we play in, day in and day out -- that same marketplace that was created as part of the Restructuring Act a long time ago.

You've heard that this creates one winner and many losers. My company is one of the losers that this legislation, this concept, would create.

And my ask for you, simply, today is recognizing that this is a very complex issue. I've worked on studies in other states; other states have taken a year, 18 months to study these issues before even considering legislation. So my ask for you, simply, today is to do, I think, something that Mr. Izzo said earlier, which is to understand all of these issues before you get into weighing in on a bill that we haven't -- if you heard -- haven't actually had a chance to look at and analyze yet.

The reasons for that are quite simple. First, you've got breathing room. You've heard Mr. Izzo talk about the fact that they're profitable for at least the next few years. I hope, at a minimum, that that gives you the sense that you actually don't have to make a decision now. You have breathing room; you have time to actually dig into this.

But secondly, and probably more importantly, you've also heard that there are solutions already being considered that would take the State of New Jersey completely out of having to put ratepayer money at risk. The Federal government -- FERC, -- in conjunction with PJM is already looking at pricing reform. All of us in this room are participating in that process. That's the kind of thing that everybody who plays in this marketplace wants to see happen. Because when you get pricing reform correct, then all these issues go away.

In addition, you all know that Governor-elect Murphy has said, "I'm going to put New Jersey back in the Regional Greenhouse Gas Initiative." Nuclear is a zero-carbon resource. Forget about the fact that it's not renewable and it does generate radioactive waste. It's zero-carbon. They are going to be one of the largest beneficiaries of going back into RGGI. They're going to get more money. And when Mr. Izzo talked about all the different things, he didn't even mention the fact that that is likely to happen under Governor-elect Murphy.

But more to the point, let me just highlight a couple of reasons why acting now would be to New Jersey's detriment.

You know, first and foremost, it unnecessarily increases consumer costs. And let me tell you why I used the word *unnecessarily*. There's a process in place in all the Northeast regional markets where if a power plant is in danger of closing -- that you have to make a filing with the grid operator and let them know. There's then a process that ensues; a reliability analysis. And if that project is needed for reliability, then there's the option for that owner of that generation to enter into -- to negotiate and enter into a contract. Why should you care about that? You should care



about that because that contract is socialized throughout all of the area where all the beneficiaries of that plant are.

So follow me here. Process at PJM; make a filing. If it's needed for reliability, if it's as valuable as Mr. Izzo says these plants are to reliability, it doesn't close. The utility, PSE&G, gets a contract that they helped to negotiate, and they're compensated. And that money just doesn't come out of New Jersey ratepayer pockets; it gets socialized among all of the folks who are the beneficiaries of that plant. What could be fairer to everybody here than having PSEG not come here and ask you for money, but going through the process that's part of the rules that they agreed to play to when they --- as they operate these plants.

Secondly -- I've mentioned this before -- this disrupts the markets; it hurts companies like me.

And then my third point is, New Jersey companies, as a whole, are hurt by this because of the impact to prices.

Now, I just want mention, for those of you who don't know -- who I haven't had a chance to meet before -- in 2004, NRG was-- Prior to 2004, NRG was based in Minnesota. We moved our corporate headquarters from Minnesota to Princeton, New Jersey, in 2004. We used to be on the northbound side of Route 1 in Carnegie Center. We grew the company from being a modest generator -- basically, just a Northeast-based company -- into a Fortune 500 company that now has about 48,000 megawatts of power throughout the country. And we have every technology out there: We have coal, oil, natural gas; we've even got nuclear. So it's not like we're opposed to nuclear. We also have renewables, and we have

over 3 million customers as part of our retail business. So we've done what we wanted to do in moving here. We've grown this company.

Two years ago, in 2016, we had the opportunity -- or prior to 2016, we got so big we outgrew our space and we had the opportunity to move our headquarters. We specifically stayed here; and some of you driving up and down Route 1, we're now on the other side, on the southbound side. We have a huge state-of-the-art building that I mentioned before. We chose to be here, and we love being here. Our C-suite is based here: our CEO, our CFO, all those folks. And we want to stay.

This legislation sends the signal to folks like NRG that you need not invest in New Jersey, going forward. It says, specifically, "We will violate the markets in the place that you play, and we will pick one New Jersey company over everybody else that's out there."

And I just want to leave you with that, because I am not asking you to kill this bill right now. What I am asking you to do is to not do it in lame duck; and to take your time to understand all of the different aspects of that. And I think a number of the other folks who have testified have touched on a number of those things.

SENATOR SMITH: Thank you.

MR. LONG: Thank you.

SENATOR SMITH: Doug O'Malley, Environment New Jersey.

**D O U G O ' M A L L E Y:** Thank you, Mr. Chairman.

My name is Doug O'Malley; Director of Environment New Jersey.

We represent more than 20,000 citizen-members across the state.

And I'll be brief in my testimony, because we've heard a lot already this morning; and now it's afternoon. And we have obviously heard a lot about PSE&G's nuke plants shutting down. But we haven't heard a lot about PSE&G's finances, and that's ultimately what this question is about. You know, do you take PSE&G's word that they're going to shut these plants down, or do we have an independent analysis of their books?

And really, that's, I think, the crux of this debate -- is we need to have an open, independent, and transparent process to look at PSE&G's financial books so that before we even have a discussion on any sort of subsidy bill, we have a clear understanding of what we're talking about.

We cannot hand over ratepayer money just on assertion. And this is, ultimately, incredibly critical because there's a huge risk of harming Governor-elect Murphy's clean energy agenda. Because ratepayer funds are a zero-sum game. And if we are bailing out nuclear facilities that do not have this need, we are not going to be able to make those investments in clean energy initiatives.

I also want to say that we actually had some productive debate in your Committee, Chairman Smith, last June, about having a study analysis and a study bill to independently look at this process. And ultimately, that's what we should revisit, and that's where we need to go before we have any sort of legislation in front of us. You know, that's -- I think there will be broad support and consensus from multiple stakeholders to actually get that independent analysis before we look more broadly.

I want to echo just some of the issues that were brought up previously, with Exelon's bailout, specifically in Illinois. And I want to note that this was a clear difference. These plants were not profitable, and even there, Exelon came in and said, "We need a bailout for six plants." And because there was an independent process, you only had a bailout for two plants.

So, you know, let's look at the record, and let's not -- let's make sure we're following what we've seen other states do, at least on this process, and not just trust utilities at their word.

I want to end, also, by referencing that PSE&G's work on LCAPP actually creates a very thorny legal precedent at the Supreme Court. The *Hughes v. Talen Energy Marketing* decision ultimately harms the legal viability of having an independent bailout for nuclear facilities. That needs to be acknowledged. This is not a slam-dunk; we've heard that from PJM and from the Market Monitor that there are real concerns with this.

And I just want to end by saying, obviously we're very supportive of Governor-elect Murphy's work to reenter the Regional Greenhouse Gas Initiative. But that needs to be, kind of, the first initiative, and not the last. And an unnecessary bailout of nuke plants really will create choppy waters for the Governor-elect's clean energy agenda.

Thank you.

ASSEMBLYMAN DeANGELO: Thank you very much.

If I can ask Stefanie Brand, from the Ratepayers, to please come forward.

Good afternoon, Stefanie. Thank you for coming forward, and we all have a copy of your testimony.

**STEFANIE A. BRAND, Esq.:** Yes, I know.

Thank you.

I was going to say “good morning,” but I’ll say, “good afternoon.”

I appreciate the opportunity to testify. We have submitted written testimony, and I hope you will all read it. I won’t -- I’m not going to read it here; I just want to highlight a few points.

I would like to say, first of all, as the representative of the ratepayers of the state, we also don’t want to see these nuclear power plants close. That is not in anyone’s interest. The fact of the matter is, however, that they’re not going to. And for all of the reasons some of the other witnesses have talked about, there is certainly reason to believe -- there’s a lot of reason to believe that they are continuing to earn money for PSE&G; they’ve pretty much admitted that. And there are also processes in place to make sure that they will continue to make money, and that they will continue to provide electricity to New Jersey’s ratepayers.

In 1999, this Legislature voted to deregulate generation. And the question here today is, are we willing to continue on that path, or are we going to retrench from that?

There are in-market solutions; to the extent that there is a problem, there are in-market solutions that can be explored. This week, PJM is beginning its process to look at some of its in-market solutions. There could be solutions at FERC that certainly Secretary Perry -- although he wants to prop up both nuclear and coal, and has wrapped himself, frankly, around-- Half of his statement to the Congress recently was a

quote from Mr. Izzo. There's also RGGI; RGGI will -- is a price on carbon, and that will also have an impact.

And an important thing to remember is that if we do a subsidy here, and all of those processes come to fruition, ratepayers will pay twice, or three times, or more than that. We will pay-- New Jersey's ratepayers will pay on all of those fronts. It's not like we will get a credit at PJM because we're doing -- if we do a subsidy.

Another thing to remember is that not all of the electricity from these plants comes to New Jersey. So if New Jersey were to prop up these plants through a subsidy, we would be subsidizing ratepayers in Delaware, in Maryland, in Pennsylvania, and in other parts of PJM. So really, the regional solution is the right choice because, as mentioned by some of the other witnesses, the cost of it will be spread out among the people who actually do use the electricity from these power plants.

I do want to point out that in New York and in Illinois they did require the utilities to open their books and actually show who was at risk before any deal was reached. In Connecticut, they've also done a bill that requires a demonstration that the plants are losing money before they get a single penny. And at the very least, that should be done here.

You know, Senator Smith, someone mentioned that you had submitted -- you had introduced a bill, a while back, to do a study to see what the true situation is. And I would encourage you to do something of that sort. To rush this through in lame duck and not take the time to really, really pay attention really puts ratepayers at risk.

The other thing I would like to add is that this is only one area in which PSE&G is seeking substantial money from ratepayers. They

currently have a \$2.68 billion gas main replacement program that would raise rates. If it got approved, as they have submitted it, it would raise rates 20 percent over the next 5 years, just for that alone.

Their transmission rates are through the roof. Since 2009, they have a 465 percent increase in their transmission rates.

They're filing a rate case; and they're going to be filing some other proposals, including a second storm-hardening proposal. There are any number of projects that they are trying to get paid for by ratepayers.

And so choices are going to have to be made, because ratepayers can't afford it all.

So really, we need to figure out what is actually needed, because we do need to replace some gas mains; we do need to do a lot of the clean energy programs that our new Governor is looking to do.

Another thing to remember is that we've kind of already paid for this. When deregulation came in, in New Jersey, the utilities, including PSE&G, were concerned that the market wasn't going to give them enough revenues. So a stranded cost charge was put on ratepayers' bills; we paid about \$2.5 billion to \$3 billion to PSE&G to deal with this very question. And now-- Actually, at the time, someone challenged it when it turned out they were making windfall profits instead of having stranded costs, and the courts said, "No, no. no. A deal is a deal."

Well, now, here we are; and apparently, a deal is no longer a deal anymore. And that's something very important to point out.

And finally, I've heard some people say that this is a bridge to a clean energy future; but it's not. The time to spend on our clean energy future is now. We need this money now for that. If we want to develop

wind, solar, energy efficiency, electric vehicles, we need to start planning for that today. And if we are spending it on already-profitable existing plants, there's not going to be enough money to do that.

In terms of the jobs -- businesses are ratepayers too, obviously, and that's going to affect what they pay. I was kind of shocked to hear the representative from The Brattle Group come here and talk about *gross benefits* without at all considering the *net benefits*. Because if you don't look at the other side of the equation, then the equation is really not worth anything.

And we need to take the time to do that. We need to make sure there really is a problem; we need to make sure that they open their books; we need to use a market solution to figure this out; and we need to let the market do its job. We don't want another LCAPP; we don't want to be another situation where New Jersey gets slapped back by the Federal courts. And we also don't want ratepayers paying for all of these potential solutions, more than they have to, for these already-profitable plants.

And with that, if anyone has any questions, I'm happy to answer them.

ASSEMBLYMAN DeANGELO: No; thank you, Stefanie.

SENATOR SMITH: So I think, possibly, our last speaker in opposition -- and I will announce all the rest who signed in; and then we'll give Mr. Izzo a chance to make some comments.

Frank Von Hippel. Are you here, Mr. Von Hippel?

J E F F T I T T E L: (off mike) That's not right.

F R A N K N. V O N H I P P E L, P h. D.: Thank you, Mr. Chairman.



I, actually, am not here in opposition; I'm here to make a point that if you do decide to go down the same path as New York and Illinois did and subsidize these plants, that you should take that opportunity to condition it on major safety improvement at the Salem and Hope Creek plants.

I'm Frank von Hippel; I'm an Emeritus Professor and a Senior Research Physicist at Princeton University; and a reactor safety expert, I say modestly.

For four years after the Fukushima accident, I served as a member of the congressionally mandated National Academy of Sciences study on lessons learned from Fukushima. And the most important thing I learned in that study was about an accident that didn't happen at Fukushima, but almost did. And that was, if the water had been lost from a spent-fuel pool at Fukushima -- as the U.S. Nuclear Regulatory Commission believed was the case for about two weeks -- and there was a fire, and the spent-fuel in the pool burned, the release would have been 100 times worse than the one that actually occurred.

And, in fact, the Chairman of Japan's Atomic Energy Commission advised Prime Minister Kan that Tokyo might have to be evacuated if the wind blew in the direction of Tokyo.

The Nuclear Regulatory Commission did its own -- the U.S. Nuclear Regulatory Commission did its own study on lessons learned, and concluded that a fire in a dense-packed U.S. pool -- such as most reactors have in the U.S. -- would require the long-term relocation of about 3.5 million people, on average, from an area the size of New Jersey. That's how big -- how serious this accident would be.

They also concluded that the accident danger would be mitigated if, in fact, all spent fuel older than five years in the pools was removed to dry-cask storage. They estimated that that would cost about \$50 million per reactor.

The nuclear industry pushed back and said that this would push some of its -- more of its nuclear power plants out of operation; they would no longer be profitable. And the NRC backed off. It used the cost-benefit analysis to legitimize that, but the cost-benefit analysis was very skewed. It included, for example, that there would be zero-probability of a terrorist act, and it also excluded consequences of an accident beyond 50 miles; where, in fact, mostly the areas affected would be so huge that most of them would be beyond 50 miles.

So basically, the subsidies that Illinois and New York are providing are about \$100 million per reactor, per year. The \$50 million cost for mitigating this situation, per reactor, would therefore be about half of a year's subsidy. And I think although the Nuclear Regulatory Commission -- the Federal government has preempted the states on reactor safety issues, in this case you do have a lever -- you would have a lever, if you decide on subsidies, that you could, in fact, condition them on the utilities remedying the situation.

Thank you.

SENATOR SMITH: Thank you, sir.

I know everybody has their hand up.

How many slips didn't speak? All right; and everybody wants to speak.

So the Chairman said the one group we probably should try to hear from-- Because remember, this is not the end of anything; this is a discussion. But I think we should hear -- and the Chairman also agrees -- the very short presentation from AARP, Evelyn Liebman.

MR. TITTEL: (off mike) What about the environmental community? I'm sorry; this is one of the most important issues that are going to shape New Jersey environmental policy for 40 years.

SENATOR SMITH: You'll have future opportunities, Jeff.

MR. TITTEL: (off mike) And this is lame duck, and you're rushing it through, and we don't even have a chance to speak.

SENATOR SMITH: Evelyn, you're at bat.

MR. TITTEL: (off mike) This is shameful.

SENATOR SMITH: Go ahead.

**D A V I D P R I N G L E:** (off mike) Will you commit to not moving the bill until we can see it and be able to digest it?

SENATOR SMITH: Are you speaking, or not?

You have three minutes.

**E V E L Y N L I E B M A N:** Thank you, Mr. Chairman; Chairman Smith, Chairman DeAngelo, and members of the Committee.

I didn't realize that in filling out the slip there was something to oppose or support. And I believe that I'm probably not the only one in this room who didn't-- But whatever.

My name is Evelyn Liebman; I'm the Director of Advocacy for AARP in New Jersey, representing 1.3 million members throughout the state. And at AARP, what we do, we do for everyone.

You have my testimony; and I will just briefly summarize it here, and try not to repeat the comments of others.

We wholeheartedly support the comments and the testimony of Stefanie Brand and the Division of Rate Counsel.

This issue is very important to us; indeed, all consumers in New Jersey, as all consumers, have to be able to rely on the availability of safe, affordable, and high-quality utility services. We are not anti-nuclear; we are not anti-energy, as others have said. Energy is at the core and the lifeblood of our economy.

However, we are concerned that in the face of a more competitive marketplace driven by the natural gas boom that has lowered energy prices, the nuclear industry -- not only here in New Jersey, but as you have heard, in other parts of the country -- has seen a decrease in their profits, and as a result, want to be relieved of the deregulatory environment that this Legislature sought fit to establish back in 1999 -- supported by the industry, as they wanted both the rewards and the risks of deregulation.

Our concern here is, obviously, cost and the health of the market. As you have heard from the Market Monitor, we are, in fact, fortunate to be in a healthy regional market. When deregulation was enacted back in 1999, what consumers were promised was lower prices and choice. Right now, for residential customers, our electricity prices are 30 percent above the national average. So we have some work to do.

But I did a quick look back in the archives, back to 1999, when those who were supporting deregulation promised lower prices and choice -- and at that time, we were told our prices were 50 percent above the national average.

So we have moved in the right direction, certainly at the wholesale level. But as you heard from Stefanie, that's not the only piece of our bill.

We're concerned that any subsidy will throw a monkey wrench, if you will, into those markets and eliminate our choice, as consumers -- as we were promised by deregulation -- to choose or not to choose power based on whether or not the economics work for us. And so a subsidy in this case will eliminate our right, as consumers, to choose uneconomic (*sic*) power.

For those of us who are living on a fixed income, this is a health and safety issue. We know that all consumers -- but particularly those who are older, those who are frail -- need to be able to rely on their heat in the winter, air conditioning in the summer. Recently, the Department of Human Services issued a report, *Living Below the Line*, finding that nearly 6 in 10 retired elder-only households lack sufficient income to insulate them from poverty as they age. The average monthly Social Security benefit in New Jersey is just shy of \$1,400 a month, or about \$16,500 a year.

Thirty percent of all New Jersey seniors rely on Social Security as their sole source of income; 21 percent rely on Social Security for 90 percent of their income; and 43 percent rely on Social Security for 50 percent or more of their income. So when we're talking about a nuclear subsidy, it is a tax; it is a tax, along with property taxes, along with income taxes, along with sales taxes, along with a gas tax; and it all comes from our pocket, and it has an impact on whether or not we'll be able to keep the lights on, literally keep the heat on, keep the air conditioning on, fulfill our prescription medications that we need.

So we ask you to consider and balance the needs of just not our nuclear industry, but our market in general and the needs of consumers. And consumers actually are smart. Given the information, consumers can figure out what makes sense, what's right and wrong.

You have before you a poll that we just released this morning, from the Rutgers Eagleton poll, on this question. Fully 75 percent of New Jersey voters are not interested in paying a subsidy; almost the same number -- almost three-quarters -- are concerned about the rising costs of their electricity bills; and 70 percent agree with much of what has been said here today -- that before we move down this path, that there be an independent, objective assessment as to the economic viability of New Jersey's nuclear plants before any legislation is drafted.

Finally, I just have to echo the concern that any decisions not be made in the final waning days of this lame duck session. If there is legislation, we look forward to coming before both of your Committees when we actually have something more specific than we can comment on today.

Thank you.

SENATOR SMITH: Thank you very much.

Let me just announce the people who didn't speak, all right? Because some people are taking it very personally -- that they didn't get up to speak.

Drew Tompkins, New Jersey League of Conservation Voters; Barbara Blumenthal, Rethink Energy, New Jersey; Glen Thomas, PJM Power Providers Group; Dale Byrk, Natural Resources Defense; Jeff Tittel, Sierra Club; Dave Pringle, Clean Water; Michael Van Brunt, Covanta; Joe

Kerecman, Calpine Corporation; Lena Smith, Food and Water Watch, opposed, no need to testify; Karen Alexander, New Jersey Utility Shareholders Association; William Radigan, DSM North America; Dr. Ed Salmon, New Jersey Energy Coalition; John Shelk, Electric Power Supply Association; David Cetola, Johnson Matthey, Inc.; Paula Gotsch, with maybe the worst handwriting in the group here, from something; oh, it's Grandmothers, Mothers, and something.

**PAULA GOTSCH:** (off mike): And More for Energy Safety.

**SENATOR SMITH:** Jeffrey Brown, GRAMMES, for Energy Safety; John Parker, New Jersey Main Street Alliance; Deirdre Ryan, New Jersey Main Street Alliance; and Jerome Montes, Main Street Alliance.

There will be plenty of opportunities to continue this discussion.

Chairman, is there anything you want to say before we close?

**MR. PRINGLE:** (off mike) Can you describe the process, moving forward?

**SENATOR SMITH:** Is there anything you'd like to say before we close?

**ASSEMBLYMAN DeANGELO:** Yes; thank you, Chairman.

And again, I just want to thank everybody for taking the time out of the past three hours to come here and hear testimony about this. It was done in the right manner, and I appreciate everybody's time. And there will be future discussions on this as they come about.

**SENATOR SMITH:** Good.

And I think we learned a lot of things today.  
Thanks to everybody for participating.

**(MEETING CONCLUDED)**