Committee Meeting

of

ASSEMBLY ENVIRONMENT AND SOLID WASTE COMMITTEE

Assembly Bill No. 3301

(The "Global Warming Response Act")

LOCATION: Committee Room 9
State House Annex
Trenton, New Jersey

DATE: February 26, 2007
2:00 p.m.

MEMBERS OF COMMITTEE PRESENT:

Assemblyman John F. McKeon, Chair
Assemblyman Robert M. Gordon, Vice Chair
Assemblyman Charles T. Epps Jr.
Assemblywoman Linda R. Greenstein
Assemblyman Louis M. Manzo
Assemblyman Larry Chatzidakis
Assemblyman John E. Rooney

ALSO PRESENT:

Carrie Anne Calvo-Hahn
Kelli B. Kelty
Office of Legislative Services
Committee Aides

Kate McDonnell
Assembly Majority
Committee Aide

Thea M. Sheridan
Assembly Republican
Committee Aide

Meeting Recorded and Transcribed by
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ASSEMBLYMAN JOHN F. McKEON (Chair): Carrie, if you could, there's a technical announcement as it relates to transcription. You mentioned it to me before. You said everybody should be noted.

MS. CALVO-HAHN (Committee Aide): Yes. We're going to be transcribing the testimony for A-3301. So if all the speakers could pronounce their names when they come up to speak; and just note that it's being transcribed.

Thank you.

ASSEMBLYMAN McKEON: All right then. The last bill is A-3301, put forward by Assemblywoman Stender -- the Global Warming Response Act.

Here is what -- how we're going to run things on a going-forward basis today. We had, last week, about four hours of testimony that we took while in West Orange, as we said we would, at an official Committee hearing. We took a bunch of testimony in writing besides the verbal testimony. There has been additional e-mails and other written materials that have been forwarded to us since that time.

I'm going to use the prerogative of the Chair to keep those who have already testified -- to note that we remember and recall your testimony very well from the last hearing. For those members that couldn't be here, they'll have caught up through the transcripts and the like, and certainly would be in a position to ask any questions that they need to of the sponsor or any of the other witnesses who will testify.

Please follow our example, as you'll see none of the members -- including even the sponsor -- are going to speak upfront. We'll reserve our comments when we vote. And we'll have the sponsor be in a position to

sum up, as she is not substituting in today as we have a full composite of members. Although, Assemblywoman Greenstein is here substituting in, which we appreciate you being here for Assemblyman Panter.

Thank you very much, Linda.

As I promised at the end of the hearing last time, there were two individuals in West Orange -- when we cut the hearing off at 10:00 -- who I said would be the first to speak today when we came to Trenton. The first individual I'm going to call is William Amann, of U.S. Green Building Council.

Bill, please come on up.

W I L L I A M A M A N N: Thank you.

I'd like to thank Assemblyman McKeon and the Committee for the opportunity to speak on this important issue.

My name is William Amann. I am a graduate of Rutgers University, with degrees in Industrial Engineering and Economics. I'm a registered professional engineer in the State of New Jersey. I'm the President of M&E Engineers, which provides engineering design services to many private companies and public agencies, including the great State of New Jersey. Additionally, I volunteer on the Board of Directors for the U.S. Green Building Council, New Jersey Chapter, and currently serve as Treasurer.

I am here today on behalf of the U.S. Green Building Council. I wish to express our strong support for the Global Warming Response Act. We have 700 architects, engineers, and industry professionals here in New Jersey that have been trained and accredited in the LEED Green Building program, which stands for Leadership in Energy and Environmental Design.

We believe that Assembly Bill A-3301 is a great example of leadership in energy and environmental policy that is desperately needed.

The latest report from the Intergovernmental Panel on Climate Change confirms that greenhouse gas emissions are affecting our climate, and the economic impact on our economy will be devastating if we do not act decisively to reduce these emissions now. According to the U.S. Department of Energy, buildings in the U.S. consume 37 percent of our total energy consumption, 68 percent of our electricity, and generate 36 percent of the carbon dioxide we emit. The U.S. Green Building Council and our industry professionals are here to tell you that there are many technologies, techniques, and approaches we can apply today to make a huge impact on this problem. Assembly Bill A-3301 is a first step in making these practices the accepted norm.

The U.S. Green Building Council was formed in 1993 and has grown to more than 7,500 member organizations and 91,000 industry representatives, including architects, engineers, product manufacturers, energy service firms, public agencies, and contractors. Green building is now a $7 billion industry, and growing exponentially. Our motto is, "Build Green, Everyone Profits." This is in recognition of the fact that in order for a sustainable building program to be sustainable, it must be economically viable. The results of our program, which now has more than 5,000 registered building products, demonstrate energy savings of 30 percent on average. In addition, buildings built according to our program realize energy efficiencies; and efficiencies of human occupants, with lower absenteeism and improved productivity. The resulting return on investment has been shown to be 50 percent or more. That is why you can

now see LEED certified buildings here in New Jersey, such as 30 Hudson Street, in Jersey City, built by Goldman Sachs; and many new branches built by PNC Bank. These leading financial firms recognize that our buildings are financial assets that need to be optimized.

Contrary to popular belief that green buildings are more expensive than traditional buildings, we have the case studies to show that they can be built for the same or lower cost. In fact, PNC has found that they save $100,000 at every branch they build according to the LEED standard.

Our message to you is that we have the means, methods, and technologies to make measurable reductions in energy and our greenhouse emissions. The U.S. Green Building Council has signed on with the American Institute of Architects, the American Society of Heating and Refrigeration Engineers, and other organizations to support the Wingspread Principles to reduce our carbon footprint. These goals include a commitment to reduce our greenhouse gas emissions by 60 percent by 2010, and to be carbon neutral by 2030. These initiatives are happening because our industry recognizes our responsibility to address this problem. Despite a lack of leadership from the Bush administration, we have seen green building and global warming initiatives adopted in California, New York City, Boston, and numerous other states and cities.

While we will continue to press for Federal incentives and policies, it is clear that the expression, "Think Globally, Act Locally," is now critically relevant. We must not hesitate in pushing forward to address this pressing issue.

We endorse the proposals put forth but Environment New Jersey to double the funding for our successful SmartStart program. Furthermore, we believe there are many opportunities to enhance our position in the energy sector. We encourage our fine engineering schools and NJHEPS to establish curricula and degree programs for HVAC and power production engineering.

Conservation is our least expensive form of energy. And the DCA can make real improvements in our energy codes. We can raise the rebate cap in the SmartStart program for our larger industrial customers. We can leverage our position as a major energy consumer to promote clean fuels and discourage dirty coal production in other states. We must continue to fund our incredibly successful solar energy program. And critically important is the need to conduct energy audits on our existing buildings, which offer a huge opportunity to reduce the energy we use right now.

We recognize the concerns expressed by the industrial and energy sectors that our actions cannot put New Jersey at a competitive disadvantage. We agree that there are issues such as leakage and market concerns with the Regional Greenhouse Gas Initiative that need to be addressed. But we urge the Legislature to provide the DEP with the authority to formulate the regulations and policies to promote this investment in our future, to provide the financial incentives to attract capital and reduce our energy costs and expenses, and make New Jersey one of the recognized leaders as a healthy and viable place to live and work.

We urge you to pass Assembly Bill 3301. And, again, thank you for this opportunity to present our encouragement and commitment to make New Jersey a leader in the efforts to reduce global warming.

Thank you.

ASSEMBLYMAN McKEON: Bill, thank you very much.

I know there is--

ASSEMBLYMAN ROONEY: John.

ASSEMBLYMAN McKEON: Yes, sir.

I know there are a number of bills that will come up over and above this one relating to green building in general -- that we're going to try to incentivize builders of future construction and reconstruction throughout the state. So we look forward to working with you.

Thank you for your testimony.

Assemblyman.

ASSEMBLYMAN ROONEY: (indiscernible) met Cavanetti (phonetic spelling).

MR. AMANN: No.

ASSEMBLYMAN ROONEY: Different-- Okay, just curious.

The SmartStart program that you mentioned-- Could you give us an overview on that, what it really comes down to?

MR. AMANN: SmartStart is an incentive program that's funded out of the Board of Public Utilities, that promotes or encourages companies, individuals, whomever, to install more efficient equipment, do lighting retrofits, use high-efficiency equipment, additional insulation, etc., to reduce energy. And there's a rebate incentive for them to do that. And it offsets some of those costs and provides a quicker payback.

ASSEMBLYMAN ROONEY: I don't know if it's any different now than when I was looking at it some years ago -- it seems that most of the money in the SmartStart program goes into, basically, people like yourselves -- engineers -- to do the work on that, rather than have the power companies tell the customers how to do it themselves. It's a simple program in order to save energy in a building.

I have a copy of the Green Building program that goes back to 1993, as a matter of fact. And right in there it shows you, on HVAC systems, that if you went from an outlet damper to inlet vein, to a variable speed system, you would save probably about two-thirds of your energy costs. The same thing is true if you switched over to energy-efficient motors in your building. You'd save a big chunk of change there.

One of the things I've always had a problem with: the New Jersey system -- as compared to New York, where Con Edison had the smart -- actually, the Apple Power Program -- was, they gave the, basically, benefits directly to the customer. In other words, if you're putting in -- or changing your building out, they would actually give you the rebate to pay for the equipment instead of having an engineer hired. And I appreciate that engineers have to make a living. I'm not trying to take your living away.

But what I've seen in New Jersey -- and this has been the problem all along, this is why we don't have energy efficiency -- most of the money that's put into it by these incentives doesn't go for the changeover, but goes for the engineer to design a changeover and to reinvent the wheel.

No, I disagree. I'm in the electrical industry. I used to teach

this at NYU, and a few other things on how to save energy. I know from which I speak. I've gone before the Energy Association.

Bill-- Where's Bill?

Jane Kelly -- what association was she in charge of many years--

UNIDENTIFIED SPEAKER FROM AUDIENCE: Utilities Association.

ASSEMBLYMAN ROONEY: Utilities Association.

ASSEMBLYMAN McKEON: Yes, I don't--

ASSEMBLYMAN ROONEY: I just want to just--

ASSEMBLYMAN McKEON: Assemblyman, none of us doubt that you know from which you speak. We know you well.

ASSEMBLYMAN ROONEY: No, I just want to say that--

ASSEMBLYMAN McKEON: But I just need you to logistically -- because we're transcribing these -- to speak into your microphone.

ASSEMBLYMAN ROONEY: I apologize for not being at the meeting. I told you I spent at least an hour on the Palisades Parkway.

ASSEMBLYMAN McKEON: Don't be silly. Take your time. I just want you to talk into the microphone so they can get the transcription.

ASSEMBLYMAN ROONEY: Okay.

At the last meeting, I was stuck on the Palisades Parkway for over an hour, and I went two miles. And then I heard there were more accidents on the way down, so I had to turn around and go back. So my apologies for not being there.

But I will probably deal with that same question a little bit later. I think the way New Jersey has gone about it in the past-- And if the

SmartStart program is the same as it was before, I'm going to have a major problem with it.

So thank you for your testimony.

Feel free to respond.

MR. AMANN: Thank you.

I'm not sure-- I believe it's changed, because there are very limited funds available during the design process for-- There is some incentive during the design process. And it involves collaboration with the gas, or electric, or utility involved. But most of the moneys-- By far, the large share of the moneys that I see -- because we've collected, on behalf of our clients, a lot of -- a substantial amount of money. And it goes directly to the clients, directly for the equipment.

ASSEMBLYMAN ROONEY: That's my problem. In order to basically get into the SmartStart program, you have to have an engineer to make the application, from what I remember. If it's different, then--

MR. AMANN: It's better.

ASSEMBLYMAN ROONEY: Then it's better. I would ask the people on the utility end of it to give me copies of it so I could see.

Thank you.

ASSEMBLYMAN McKEON: Okay.

Seeing no other questions, Bill, thank you very much.

Mike Trachtenberg, of Carbozyme, Inc.

Again, we're really sorry we didn't reach you in West Orange.

And then we have new witnesses signed up. And I know we have Mayor Gilmore, who is here. And in deference to his schedule, we will call him next.

M I C H A E L C. T R A C H T E N B E R G, Ph.D.: Mr. Chairman, ladies and gentlemen, thank you very much for listening to my testimony.

My name is Michael Trachtenberg. I am the CEO of Carbozyme. Carbozyme is a development-stage company that is focusing on producing new membrane systems for the selective capture and enrichment of carbon dioxide. We are currently working under Department of Energy funding in excess of $7.5 million. We are working with a number of large utilities here in the state.

So I'd like to tell you, first and foremost, that there are new processes, that will soon come online, that will be capable of capturing carbon dioxide from both natural gas and coal-fired power plants.

I would guess, in all reality, that we're looking at about four years or so before those will be commercially viable. The key is to reduce the cost of energy so as not to derate the power plant so much that one needs new construction in order to compensate. And the magic number is something under 20 percent. Above that, you're starting to look at significant infrastructure additions, not simply at power plants, but also in terms of rail lines, coal supply, and a variety of other infrastructure elements. Currently, our technology is looking at about 12 percent. And the DOE target is 10 percent. Therefore, I think that our technology provides a vehicle in support of 3301, namely a cost-effective method for CO_2 capture.

Let me switch now and discuss a couple of problems, as a concerned citizen. That is that New Jersey does not have a wealth of sites at which to dispose of that CO_2. The current Department of Energy model is three stages: capture, transportation -- primarily by pipeline -- and storage

in deep geologic reservoirs, with the object of storing that CO_2 for thousands of years safely.

They're making considerable progress towards that end. However, that is not a terribly viable alternative for New Jersey, in as much as there is only one deep saline reservoir in the local area, and it is offshore, near Atlantic City. Therefore, one would have to develop a substantial pipeline facility capability and a deep-well drilling capability in order to dispose of this CO_2. In separate activities, we are looking at new technologies for turning the carbon dioxide into carbonates and bicarbonates to provide both solid and liquid storage vehicles in and apart from the high-pressured gas.

Secondly, I'd like to call your attention to some work we are just beginning that converts carbon dioxide back into hydrocarbon fuels. In other words, we can convert CO_2 into gasoline by a biotechnology-driven biofuels process, in contrast to an agricultural-driven biotechnology process. Our current estimates are that the cost of gasoline by this matter would be on the order of $1.00 to $1.25 to manufacture. This compares with about $0.75 today from a gallon -- for a gallon of gasoline from crude oil, and about $2.39 for a gallon of ethanol, realizing that ethanol has only 70 percent of the energy capacity of gasoline.

So I want to keep my remarks brief, but I do want you to be aware of the fact that there are interesting opportunities available for dealing with the capture, the storage, and the utilization of carbon dioxide.

Let me close in pointing out the extreme benefits of the CO_2 conversion to gasoline, or gasoline equivalents: and that is a benefit in terms of the balance of payments, a benefit in terms of energy security, and

the fact that we are now reducing the overall CO_2 output by 23 percent by carrying out this conversion, in essence getting two bites at the apple for the same cost.

I thank you very much for your attention, and would be delighted to take any questions.

ASSEMBLYMAN McKEON: Dr. Trachtenberg, thank you for your testimony.

Any questions from members? (no response)

Seeing none, Mayor.

Thank you, again, doctor.

If you can get those technologies commercially viable within two years, we'd appreciate it. (laughter)

DR. TRACHTENBERG: A little bit of funding, and we will fast track.

ASSEMBLYMAN McKEON: It just takes money, that's all.

MAYOR GLEN D. GILMORE: Thank you, Mr. Chairman.

Glen Gilmore, the Mayor of Hamilton, New Jersey, in Mercer County.

ASSEMBLYMAN McKEON: Welcome to you, Mayor.

MAYOR GILMORE: Thank you, Mr. Chairman.

As Mayor of New Jersey's eighth largest municipality, I urge this Committee to pass -- or endorse -- this legislation. We cannot, at the local or State level, afford to abdicate our responsibility to address the grave challenge posed by global warming to our Federal government. The costs of ignoring this challenge are far, far greater than the costs of addressing it.

We in Hamilton Township are trying to do our part. We have actually begun the process of conducting our own greenhouse emissions inventory, so we can track our effort to reduce greenhouse emissions in concert with what the State is trying to accomplish. We have converted all of our trucks to using biodiesel. We are looking to try and do green building in our community and to investing in renewable energy sources.

I can well-appreciate the concerns of how incentives are spent and the responsibility to make sure that they're spent wisely. But I think there's much that our State can do to help us lessen greenhouse emissions by removing some of the disincentives that exist. I know that Assemblyman McKeon and others on this Committee have also sponsored legislation that would remove the tax hit that some people take when they try and invest in solar panels.

We in Hamilton Township, just last week, had a family that was very proud of doing their part to invest in renewable energy and install -- to great costs to themselves -- solar panels, only to discover that they're being hit with a property tax assessment that is going to, each year, hit them with added property taxes. So it's not simply a matter of us looking to create incentives for people to invest in renewable energy. It's a matter of us also looking for ways to remove some of those disincentives.

And, again, I know that Assemblyman McKeon and others have looked to take legislation that expired in 1987, that had been in existence from 1977 to 1987, that removed solar panels as something that would cause a homeowner to be hit with heightened property taxes -- to restore that back to being legislation that will, hopefully, encourage more people to invest in renewable energy.

Again, the costs of ignoring this challenge are far outweighed by what we face if we, as a community; if we, as a State; if we, as a nation don't do something to address the devastating consequences of global warming.

Thank you, Mr. Chairman.

ASSEMBLYMAN McKEON: Thank you, Mr. Mayor.

We have passed that bill out of this Committee. It's in *approps* now. And, honestly, it's silly that we even had to. There was a memo that came out of the Treasurer's Office -- not in this administration but the last one -- questioning, because of the fact that it had expired, as to whether or not they should start taxing that kind of improvement. Which, to me, you should just use your common sense. But we're going to try to make sure that we put the legislative imprimatur behind it.

So thank you for coming down and testifying today.

MAYOR GILMORE: Thank you, all. Thank you.

ASSEMBLYMAN McKEON: John Hazen, New Jersey DEP.

Just for the record, for the second time, I did speak to Commissioner Jackson several times over the last few days. And she's been working diligently, along with Assemblywoman Stender, in coming to a point where DEP can be collectively working together with us on this legislation.

J O H N H A Z E N: Yes, Mr. Chairman.

I'm John Hazen, Director of Legislative Affairs for the DEP.

First, I just want to-- I believe the Commissioner had sent you a letter prior to your public hearing. And I just want to reiterate our

support for your effort, and commend you and Assemblywoman Stender for pushing this important issue forward.

We do want to continue to work with the sponsor and with the Committee. There are some valid concerns that we have. A big one has to do with the resources. We think that A-3301 mandates for DEP action and analysis is quite broad. It requires significant new staff resources.

We also have concerns about the fact that it's pretty much all our Department, and that the bill -- the emission limits will require a portfolio of action across the board, whether they're transportation, building, power generation. And these will be outside the current authority of DEP and really reside with other agencies in State government. And we are working with those agencies, with the sponsor, to try and come up with an approach that can be included in the legislation.

We also would like to raise some concerns about the schedule. One thing that we note is that this bill is based on the California bill that passed to set up a program out there. But it should be noted that in California, they did do basically an 18-month process of meeting with stakeholders before the bill was passed. And we would appreciate the opportunity to have more time to be able to do that.

One other comment that we would like to make is that we need, really, some more specific guidance. For example, the bill should broaden the language to allow for emission reduction measures, including market-based greenhouse gas emissions cap and trade programs.

So these are the types of things that we would like to work with the sponsor on as the bill moves through the process. And, again, we do appreciate your efforts, and of this Committee, in making the steps to

address this important issue which we feel is crucial, as was evidenced in Governor Corzine's recent executive order.

And with that, I will close.

ASSEMBLYMAN McKEON: Mr. Hazen, the prime sponsor, and all the prime sponsors, have pledged to work with your offices, and particularly the Commissioner, toward additional and potential amendments as this goes through the legislative process. So we appreciate your willingness to cooperate with us, notwithstanding that we know we still have some work to do.

But contingent on support by the Committee, we do plan on moving this bill today.

MR. HAZEN: Great.

ASSEMBLYMAN McKEON: Any questions for Mr. Hazen?

ASSEMBLYMAN CHATZIDAKIS: Mr. Chairman.

ASSEMBLYMAN McKEON: Yes, Assemblyman Chatzidakis.

ASSEMBLYMAN CHATZIDAKIS: Thank you.

The benchmark, obviously, in this bill is based on returning the emissions level back to 1990 levels. And I'm just curious how much information and data you would have relating to that benchmark era, how accurate you think it would be in setting-- Obviously, it's all based on those 1990 numbers.

MR. HAZEN: I really don't have that information at hand. Thea had raised it before to me, and I will go back to my folks.

But the one thing that I know about my Department is, we love collecting data. And we have been collecting it for 30 years. And as a matter of fact, many in the regulated community have complained that we

collect things that we never use. So my confidence would err on the side that we do have the ability to set the inventory and to have it. But I will get back to the Committee with a more precise answer.

ASSEMBLYMAN CHATZIDAKIS: I don't doubt your collected data. I'm just curious if the pertinent data is available, so we don't end up with the SWAG theory of people -- I don't want to say what that stands for, but it begins with a *wild guess*, as a couple of words in there. But anyway--

MR. HAZEN: Right.

ASSEMBLYMAN CHATZIDAKIS: Obviously, we have a concern, because we're using that as a benchmark to move forward, and the impacts it has with everything else that will be discussed later on.

But you feel confident that the pertinent information that will be required to establish that benchmark -- you think that information is there?

MR. HAZEN: I do believe it; but let me check with my program folks, and I will get back to the Committee, through the Chair.

ASSEMBLYMAN CHATZIDAKIS: Sure.

Thank you.

ASSEMBLYMAN McKEON: Any further questions for Mr. Hazen? (no response)

Seeing none, John, thank you, again, as always, for your professionalism.

Ed Wengryn, from New Jersey Farm.

E D W E N G R Y N: I'm Ed Wengryn, from the New Jersey Farm Bureau, a member organization with 16,000 farm- and green-industry related families.

Across the country, agriculture already is playing a crucial role in the effort to control greenhouse gases. Agriculture lands in the Midwest are farmed as part of carbon trading agreements. The caps in trading programs were just mentioned -- to help reduce and encourage carbon sequestration. Those practices can and are being used here in New Jersey, as well. The opportunity for new crop markets is exciting, especially when paired with the State's successful Farmland Preservation Program, which has already preserved over 160,000 acres.

Biomass and bioenergy crops can substitute for carbon fuels in power generation. Biofuels shift the fuel blend away from traditional CO_2 fuels. This bill helps set the stage for the holistic approach needed in State policies for energy, solid organic waste, and agricultural production.

New Jersey farmers have already shown their excitement about being part of the solution. Over 20 farms currently generate 1.2 million kilowatt hours a year of solar energy, displacing their use of fossil fuel-based electric sources. Over a 20-year period, those few farms will reduce CO_2 by over 30 million pounds. Imagine if the 9,000 farms in the state were able to participate in that kind of program.

The legislation outlines some goals to reduce greenhouse gas emissions, look for partners, and work with other states in the region to accomplish this with minimum impacts to New Jersey business and industry. With over a quarter of New Jersey's remaining open space

dedicated to agricultural production, New Jersey farmers stand ready to be part of the solution in addressing the reduction goals outlined in the bill.

Questions?

ASSEMBLYMAN McKEON: Oh, Ed, I'm sorry. I didn't know that you were--

MR. WENGRYN: Nice and simple.

ASSEMBLYMAN McKEON: It was an excellent--

MR. WENGRYN: We're in favor of the bill.

ASSEMBLYMAN McKEON: Excellent presentation. And thank you very much.

Any questions for Ed?

ASSEMBLYMAN ROONEY: Just a comment.

ASSEMBLYMAN McKEON: Assemblyman.

ASSEMBLYMAN ROONEY: I just read recently that one of the major causes of this is animal flatulence. This was in the *Record*, I believe, just last week. Are there any plans for the Farm Bureau to reduce-- (laughter)

MR. WENGRYN: With fewer than 130 dairy farms in the state, I don't think we have a huge animal flatulence problem. (laughter)

ASSEMBLYMAN ROONEY: Well, they said it was even greater than the amount of pollution created by transportation, which I found very hard to believe. But it was only a few days ago in the *Record*. It was an interesting article. So how do we prevent that? Beano for all of the animals, right? (laughter)

MR. WENGRYN: Again, there's balancing, trading crops with what you can grow.

ASSEMBLYMAN MANZO: I'm going to pass on that. (laughter)

ASSEMBLYMAN McKEON: There are those who would argue, not flatulence, per se, but hot air out of Trenton itself accounts for 14 percent of all growth--

ASSEMBLYMAN ROONEY: Have to add a little levity here. (laughter)

MR. WENGRYN: Yes. Any other questions?

ASSEMBLYMAN McKEON: Any other questions for Ed? (no response)

I thank you very much.

Mr. Rodriguez, Regional Plan Association.

C A R L O S R O D R I G U E S: Thank you, Mr. Chairman.

As everyone in the room knows, my name is Carlos Rodrigues. (laughter)

ASSEMBLYMAN McKEON: Are you in favor or against this bill, sir?

MR. RODRIGUES: I had a little global warming event of my own a little while back there.

Okay. Carlos Rodrigues, Vice President and New Jersey Director of the Regional Plan Association, the nation's oldest civic group dedicated to regional planning, and improving the quality of life and the economic competitiveness of the 31-county New York-New Jersey-Connecticut region.

You have a copy of my testimony.

ASSEMBLYMAN McKEON: Thank you for that, sir.

MR. RODRIGUES: I really don't feel the need to read all of this.

I'd just like to make, essentially, three points. First, obviously, we support this bill. We don't think that this bill, on its own, is going to solve our problems, but it's a part of a three-part strategy which we think will address, or help us to address, this issue.

This three-part strategy would be: Through this bill, and other similar initiatives, to establish a comprehensive and expedited planning process leading to a market-based regulatory program that allows for compliance flexibility. We want a program that will promote economic development in the alternative energy sectors and not simply clamp down on the fossil fuel consumption side. So we have to be careful to create a framework that allows for innovation, creativity, and economic development; and becomes, in itself, an engine of future economic development in this state.

In addition to that, we see two other prongs, if you will, to a New Jersey response to global climate change. The second prong would be to invest in the remediation and restoration, at a much larger scale than we are now, of the large regional ecosystems which will be effected by climate change. And we should be modeling them now and understanding what the likely changes in their behavior will be, and taking the appropriate steps to protect affected communities and to enhance these ecosystems.

And third, obviously, since -- as we have heard already, several times today -- 50 percent of the cause and effect relationship here is coming from the transportation sector. And the transportation sector is inherently linked to our landuse patterns. We need to refocus our attention and our

efforts on the way we develop and redevelop the land-use patterns and transportation patterns that we are creating. If we do not continue to refocus, essentially following in a much more aggressive manner the blueprints that New Jersey has had in the State development and redevelopment plan -- and in particular in the redevelopment component of that plan -- and if we do not continue to invest in public transportation in ways in which we have not, I'm afraid that we will suffer the consequences.

So again, thank you, Mr. Chairman, for the opportunity to testify here.

Any questions?

ASSEMBLYMAN McKEON: Mr. Rodrigues, thank you for your testimony. And we appreciate you hitting the highlights of your written testimony. We'll all take them under consideration.

Seeing no questions, we will call upon John Maxwell, of the New Jersey Petroleum Council.

John, not to tease you, but you're only -- you could never be as good as Eric DeGesero, who almost was drawn to tears defending fossil fuels at the West Orange hearing. (laughter)

J O H N A. M A X W E L L: Assemblyman, here is a copy of my dry testimony. I'll try to scoot through it as quickly as I can.

ASSEMBLYMAN McKEON: We appreciate that.

MR. MAXWELL: Obviously, we have some concerns.

But good afternoon, Chairman McKeon and members of the Assembly Environment and Solid Waste Committee.

The New Jersey Petroleum Council has been supportive of efforts by the Corzine administration and the Legislature to discuss the

issue of climate change. We have been constructively engaged with the Governor's administration and staff in a serious discussion to help shape our State's perspective on climate goals with the least adverse impact on our State's consumers, businesses, and economy. Companies are working in a variety of ways to address climate change, including improving refinery efficiency to reduce greenhouse gas emissions, even as significant ongoing research continues.

And just as an aside, I'd like to mention that our companies made a pledge to the Federal Government, in 2002, to improve energy efficiency in their refineries by 10 percent over 10 years. The companies are on track to meet the goal and, currently, our operations are becoming cleaner every day. Energy savings at our refineries in 2004 were equivalent to taking more than 350,000 vehicles off the road, or the amount of electricity used in more than 710,000 homes.

While we recognize the overarching policy goals of Assembly 3301 -- reducing greenhouse gas emissions and promoting low-emission carbon technology -- we believe that the bill lacks essential language and structural elements necessary to set an effective framework for possible future regulations. We believe that the stakes are far too significant to expect such precedent-setting and landmark decisions to be made without the benefit of additional policy direction or oversight.

Specifically, our concerns center on the lack of appropriate statutory direction establishing effective means for achieving the stated goals of Assembly 3301, including allowance for flexibility, ensuring that any reductions are cost-effective and sustainable, and ensuring that incentives are in place to encourage reductions. A focus only on emission

caps and timelines cannot be fairly evaluated without additional consideration of what type of regulatory programs would be employed to reduce emissions and achieve cap levels.

As an example, in Section 2, the bill states that "Solutions exist to halt the increasing of greenhouse gasses in the atmosphere and reduce these emissions." However, the legislation makes no specific mention of solutions and, instead, directs the DEP to establish rules and regulations to achieve the 2020 limit on emissions. The development of a list of the potential solutions and a proper review by the Legislature seems to be in order.

In addition, Sections 4 and 5 establish a timeline for implementation of this measure. As many legislators are aware, efforts regarding development of an Energy Master Plan are underway on a similar, expedited time schedule. This plan is scheduled for release in October 2007. The potential for overlap and conflict between the Energy Master Plan effort and the requirements of Assembly 3301 exists, and should be addressed while this legislation is being considered.

Similarly, Section 4.b requires that the State "shall" reduce greenhouse gas emissions to the percentage level below the 1990 levels that the DEP ultimately sets by regulation. There is no mention of this being a goal, as stated in Section 2; or any provision for potential relief should it be determine that such a goal, or the methods of attaining it, ultimately prove not to be economical, or cost-effective, or practicable.

In Section 5, there is little clarity in setting the means or point of any future regulation. We believe the point of compliance is a significant but highly complicated issue that could have important consequences for

the cost-effectiveness of efforts to achieve the goals of this bill. Without careful consideration of the administrative effectiveness of the bill, and its applicability to and impact on the people or entities actually emitting greenhouse gasses, this legislation could cause problems for the citizens of New Jersey.

Specifically, Section 5.e.(1) broadly states that the rules "shall" distribute costs and benefits of the program -- including emission allowances -- equitably, but provides very little guidance as to how that should be done. Moreover, the Legislature may want to include a requirement that the estimates of the costs and benefits of any proposed rules be reported to the Legislature before they are implemented.

There also appears to be a logical inconsistency between Section 4.a, which requires the DEP to adopt rules no later than one year after the effective date of the Act, setting the percentage reduction below 1990 levels to be met by 2020; and Section 5.a.(2), which requires the DEP to adopt rules by January 1, 2008, to achieve those percentage reductions. It is hard to see how rules to achieve specific reduction levels could be adopted sooner than the reduction levels themselves.

Special attention should be paid to Section 6, which directs the DEP to adopt any rules or regulations necessary to implement the model rules adopted by the RGGI initiative. It should be noted that these rules are presently under policy review and debate by states within the region. Some have signed on to this initiative, yet others are deferring due to state-specific concerns. And can any of us spell *Pennsylvania*? It is important that this policy discussion continue in New Jersey for the application of strategies that may have specific impacts on our state.

In Section 9, there is a mechanism for evaluating the factors and technical capacity for this 2020 limit. Specific reference is made to strategies that may assist in tightening the 2020 emissions limit. However, there does not appear to be any method in place for adjustments, should the initial reduction levels or methods prove to be impracticable or unacceptable public policy.

The costs of these proposed elements of the bill were recently estimated -- I believe last week, by our State's largest utility -- it's back in the corner -- to be in the $3 billion to $6 billion range. This has the potential to be a most significant commitment of our State expenditures relative to other programs. Understanding the potential costs and benefits of mitigating climate change is essential to all stakeholders -- including legislators, regulators, consumers, and businesses, especially given the magnitude of the potential costs -- we believe in keeping the benefits and impacts of climate change policies transparent in doing the analysis and communicating to policy leaders the results. Part of that transparency should be the resources -- funding and personnel, which were alluded to by the DEP today -- needed to effectively implement the requirements of this bill. The bill, as drafted, provides no funding to any agency of the New Jersey State government.

We are available to continue to meet with sponsors and those considering Assembly 3301 to further clarify our comments and develop sound solutions through further amendments to this measure. Until such time, we must urge the members of this Committee, and the members of the State Legislature, to carefully consider this precedent-setting legislation.

Thank you.

ASSEMBLYMAN McKEON: Mr. Maxwell, thank you.

Any questions for the witness? (no response)

Seeing none, Mr. Maxwell, there were a couple of amendments that you might want to take a look at.

MR. MAXWELL: I glanced at them quickly.

I think it's a step in the right direction.

ASSEMBLYWOMAN LINDA STENDER: Good.

ASSEMBLYMAN McKEON: Good.

I'm glad to hear that. Because in listening to your testimony -- there were some changes already made. And as we've agreed with everybody, we need to -- and will -- continue to work forward with all stakeholders.

MR. MAXWELL: We appreciate that.

ASSEMBLYMAN McKEON: Thank you, sir.

Mike Egenton.

Mike, we don't want to hear the story about how you used to play with mercury as a kid, okay?

MICHAEL EGENTON: You didn't like that story? (laughter)

ASSEMBLYMAN McKEON: I repeat that all the time, actually.

UNIDENTIFIED SPEAKER FROM AUDIENCE: It's obvious to this day. (laughter)

ASSEMBLYMAN McKEON: See, you know, I have a problem with that, because I was just about to say, sir, that I used to play with mercury too, as a kid. (laughter)

MR. EGENTON: Thank you, Chairman.

For the matter of the record, I'm Michael Egenton, Vice President, New Jersey State Chamber of Commerce.

And I just wrote down a couple of -- three or four brief thoughts, concerns that we have at the Chamber on behalf of the business community.

Obviously, Chairman, you appreciate and recognize that New Jersey industry, as a whole, for over a decade has really stepped up to the plate. And we have data that several of our Environment Committee members have put together using EPA data that shows that our air in New Jersey is, indeed, cleaner. We've also proactively supported initiatives to go better and do better, such as the diesel legislation that you've sponsored, Chairman.

Recognizing the importance of this issue and, obviously, an issue of this magnitude, we really do believe that it should be tackled on the Federal level -- recognizing that you're trying to do the local approach -- I think because the concern still remains with us on the competitiveness issue. Every time I come before this Committee, or the Economic Development Committee, or whatever committee in the Legislature, that is a tantamount issue for the State Chamber.

Over the years, you've heard us ring the bell, bang the drum about more stringent standards for New Jersey businesses compared to other states -- will only continue to put a strain on the New Jersey economy. So we have that underlying concern as we move forward.

Number two, additionally, our concern still remains with the future costs of energy.

Chairman, you know, next to-- You do the survey of your constituents. You hear about property taxes, you hear about health care. Well, energy ranks up there when we reach out to our members, as well. And it's a top issue in the business community.

My question -- and a lot of these are questions and concerns. That's why we didn't indicate a formal position on the legislation as of yet. We want to let this process play out, and be actively involved in it and engaged as the issue moves forward.

But with regard to energy costs, what guarantees that energy costs will not escalate due to meeting the demands of this legislation?

Thirdly -- and we've heard this before -- as more individuals are slated to move in and call New Jersey home in the next decade, how do we, as a State, meet the growing energy challenges. Other forms of alternate energies are a good thing, but cannot be realistically relied on. We must consider new sources of energy, possibly like nuclear, to balance the equation.

Honestly, from our perspective, solar and wind -- although welcomed -- cannot meet that energy demand alone and fill the energy needs of our state, especially if we continue to put more pressure on coal.

We can't have it both ways, Chairman. We must reasonably and methodically discuss, debate, analyze, review this very important issue with all the proper stakeholders. We should give the Energy Master Plan the process and the due diligence it deserves.

Therefore, Chairman-- I know you said it was your intent to move the bill out of Committee, but we have two requests: that we respectfully hold the legislation and allow the Energy Master Plan process

to continue to move forward; and for possibly this Committee to convene several fact-finding hearings like we did over the Summer on the property tax issue. It's a huge issue. We don't have all the answers. There's a lot of stakeholders that want to be involved in this process.

That's our request, Chairman.

Thank you.

ASSEMBLYMAN McKEON: We appreciate that, Mike, as well as the issues raised.

Any questions for Mr. Egenton? (no response)

Okay, seeing none, Mike Pisauro.

Mike, NJEL--

How are you, Mike?

M I C H A E L L. P I S A U R O JR., ESQ.: Thank you.

Chairman, how are you doing?

ASSEMBLYMAN McKEON: Good.

ASSEMBLYWOMAN STENDER: Hi.

MR. PISAURO: Hi. How are you doing?

ASSEMBLYWOMAN STENDER: Good.

MR. PISAURO: Nice meeting you.

Good afternoon.

My name is Mike, last name is Pisauro, P-I-S-A-U-R-O. I represent as the Legislative Director for the New Jersey Environmental Lobby.

I want to thank the sponsor and this Committee for holding this hearing on global warming. Global warming is not a theory or something we can ignore. Every person, municipality, county, state,

national government has to step up to the plate to address the problem. The ramifications for not addressing the problem now will be huge.

The United States, as we all know, is probably the most powerful nation in the world. It's the greatest user of energy, probably one of the greatest resources of intellectual power, yet we have, as a nation, not really done what we should be doing. And that is sad in one part, but also I commend that, because this allows the states -- the sovereign states in our federalist system -- to step up to the plate in the laboratory of democracy to start setting up solutions. And that's what New Jersey is doing today. We're taking that first step in maybe coming up with some solutions that may, at some point, become a national solution.

As I said, repercussions of global warming are astronomical. We all know that. I just want to hit a couple of highlights; because from just a nonenvironmental perspective, from an economic perspective, we can't afford not to address them. The costs are too much, as I've said before.

We can expect little over a half-meter to over a meter rise in sea level within this century. And what does that mean? One to 3 percent of our coast may be under water, floods may become more frequent and harsher. What does that mean? Well, our third largest industry is tourism. Most of that is along the shore. If the shore is under water, where is our tourism industry? Where are-- I forget the exact number, but 50 percent of the people live fairly close to the shore. We are--

ASSEMBLYMAN McKEON: Mike, I don't want to interrupt you, but one of the scientists from Princeton or Rutgers had testified that,

actually, Newark Airport and the New Jersey Turnpike -- in an area -- would be under water.

MR. PISAURO: Yes.

We are already the third highest state in FEMA flood claims. It's only going to get worse. These are economic costs, if we don't start addressing, we're going to continue to have to deal with. As we wait longer and longer to address it, what we do today is going to have effects years from now, not immediate. The costs are going to increase.

The ocean is becoming warmer and increasing in acidification. How is that affecting our recreation and commercial fishing industries? How is that affecting our bays where people go to fish?

The causes of the problem, as you know, are fossil fuels, but also, to a lesser extent, land use. We've got to start addressing that issue: how we use our land; where we locate people for travel, for business. We must begin to plan along those regards.

We support the bill. I would love to see -- going back to the language -- the goal of reducing below 1990 levels. 1990 levels are only the start. Even if we get to 1990 levels, we haven't solved the problem. We are just modifying and moderating the effects.

And I say this: We have to start acting. Back in 2003, Swiss Re, the second largest reinsurance company, announced it was going to start to look at its applicants for directors and officers insurance and ask them what they are doing in their companies to look at and address global warming. "Many representatives" -- I'm quoting from the *Environmental Law Forum*, November and December 2003 issue. "Many representatives of the insurance industry believe that they are suffering heavier losses now as a

result of claims for weather-related damage linked directly to climate change." The recent panel in Paris indicated that hurricanes and tropical storms are a likely cause -- the increase in intensity is likely caused by humanity. Insurance companies are looking to their insureds to see what they are doing. How can we ask the State to do any less of looking and protecting our citizens?

And just to wrap up: This is a great-- These are the first steps. We must become more efficient, we must be smarter in our energy usage and where we're getting our energy from; we must adopt both individual and government green buildings, open space -- the more open space we have, the better off we are. It may be just a drop in the bucket, but I'd much rather have a drop in the bucket than nothing. We must make it easier for people to use renewable energy and make it easier for them to install solar panels, wind on their homes; and not make it difficult.

So I'd like to thank the sponsor, again the Committee. And I ask that we pass this out of Committee and move forward. Any delay, I think, is too long. We've already delayed far enough.

Thank you.

ASSEMBLYMAN McKEON: Mike, thank you very, very much.

Any questions for this witness? (no response)

Seeing none, Tim Dillingham, of the American Littoral Society.

T I M D I L L I N G H A M: Mr. Chairman, thank you very much.

I'm Tim Dillingham. I'm the Executive Director of the American Littoral Society.

ASSEMBLYMAN McKEON: Welcome, Tim.

MR. DILLINGHAM: For those of you who don't know, we're a coastal conservation organization based out of Sandy Hook, New Jersey. We're here to support the bill today, and to thank and commend the sponsors for it.

The folks that are part of my organization are fishermen, scuba divers, beach walkers, people who live along the shore. They're really the ones that are on the receiving end of the problems -- many of the problems of global warming. And obviously the most pressing, from our parochial perspective, is sea level rise and its impacts.

I think you probably heard, throughout the course of your testimony, about the effects of global warming on oceans; as well as the direct problems that it poses to the ocean environment, to human safety, and to the economy -- particularly here in New Jersey, where so much of the economy is built around tourism at the shore, is built around commercial and recreational fishing, and is built around the time that we spend down on the beaches.

The developed nature of New Jersey's coastline, as the Chairman mentioned, makes it very vulnerable to flooding and inundation. I have a report that the society did, in cooperation with Rutgers University -- which I will leave for the Committee -- which looked at the vulnerability of coastal habitats, very much in line with what Mr. Rodrigues suggested about places -- very specific places along the coast that are vulnerable to the impacts.

I think that the bottom line is that now is the time to begin to deal with this. There is-- The debate is, I think, pretty much settled. There is no leadership coming out of Washington on the Federal level. The

State cannot afford to not act, to not answer the questions which have been raised, and not to continue to move forward.

And I guess in closing I would say, while the steps taken to reduce the emissions of greenhouse gases and mitigate its impacts are very important, sea level rise is an ongoing natural process. And I was very glad to hear the Committee talk about parallel legislation going forward to address other parts of this question. And we will look forward to moving -- working with you on particularly wetlands -- tidal wetlands protection, coastal habitats, other things which are very key to the shore and the economy there.

So thank you very much, Mr. Chairman.

ASSEMBLYMAN McKEON: Mr. Dillingham, thank you very much.

Any members wish to question this witness? (no response)

All right, seeing none, the only other people who signed up to testify have already testified at the West Orange hearing. So I'm going to ask them to defer.

Madam Sponsor, if you'd like to make a general statement, and then make yourself available for questions from any of the members--

And when we're through with that, I'll then accept the motion, and we will vote.

ASSEMBLYWOMAN STENDER: Thank you, Mr. Chairman and members of the Committee, for your attention and consideration of this piece of legislation which, as we have heard, offers a very important step for us as a State. The stakes are very high. We know that the science is there to support our taking this action. And, clearly, the framework for

the future of our energy consumption and energy planning, I believe, is defined within the context of this overriding piece of legislation. Because, indeed, there will have to be other pieces. And I do want to assure you that it is my intention, and of the other sponsors -- along with, I know, the Chairman -- for work to continue with the DEP to make sure -- and the stakeholders -- to make sure that this legislation can be successful. Because to have a victory of moving legislation, but to not have it go the full distance to implementation will not achieve the goals that we are all interested in, which is making sure that we have a future for our families and generations to follow, in which we can exist in this state and on this planet.

So I want you to know that I am committed to making sure that we get the details done well and that we'll have a piece of legislation that will, in fact, not only create an inventory, but will put in place the structures needed to implement the reductions of emissions that are so important to our future health and welfare in this state.

Thank you, Mr. Chairman.

ASSEMBLYMAN McKEON: Thank you, Assemblywoman Stender.

Any questions from members, of the principal sponsor? (no response)

Seeing none, I'll accept the motion to accept.

Now, I know there were amendments. Do we need to do it separately, or can they be moved -- since they were pretty simple, we can do it together? (affirmative response)

Okay. So I'm going to ask for a motion to move the bill, as amended.

ASSEMBLYMAN EPPS: Motion.

ASSEMBLYMAN GORDON: Second.

ASSEMBLYMAN McKEON: Moved and seconded.

Roll call.

And all of my colleagues who have been quite patient in deference to the schedule, please feel free to speak at whatever length you want, other than Assemblyman Rooney. (laughter)

ASSEMBLYMAN ROONEY: You know I'm ready to speak.

ASSEMBLYMAN McKEON: I look forward to it.

MS. CALVO-HAHN: On the motion to release A-3301, with proposed Committee amendments; Assemblyman Rooney.

ASSEMBLYMAN ROONEY: Yes.

And on the vote, I would just like to say this is a feel-good bill, as many bills are. It makes us feel good that we're trying to do something for the environment. And it may be the right thing to do.

However, a big warning is: Number one, we have the underdeveloped nations of the world that are, today, coming into the process, and they're starting off with the lowest form of energy, such as coal. When you get into that, that's going to contribute tons more -- I mean millions of tons more -- to the problem that we have in the environment. There's nothing that we can do here in New Jersey that's going to change that. In fact, we can't even change what's happening in the United States.

One of the things that we, as a Committee, did was go down to Oyster Creek. We looked at the Oyster Creek plant. They virtually give no emissions to contribute to this problem. However, there's a move in the state to close Oyster Creek. It is one of the cleanest plants that we have. It has a couple of problems. They're easily solved. However, we're looking to close that plant. We're also looking at other plants -- nuclear plants -- that are coming up today. Again, clean-burning, do not contribute any carbon dioxide -- or hardly any carbon dioxide -- to the environment, and yet we want to close them.

What are they going to be replaced by? They're going to be replaced by coal-burning plants in our neighboring state of Pennsylvania, and we can't prevent that. What happens is, as we go to the future and we basically change the way we do business and the cost of doing business in New Jersey-- And I remind you that in New Jersey, and in the Northeast, we have the highest energy costs in the country. It makes us noncompetitive.

There are two things-- I have been in business in the state for over 40 years. I have gone to business after business, and I have watched my base go down to practically nothing. No more manufacturing jobs in New Jersey -- or hardly any. And there are fewer and fewer. And what happens is, as the cost of energy goes up, as the cost of labor goes up, we have fewer and fewer people. As we add to this, we'll have fewer and fewer people.

I am voting for the bill, and make no mistakes about it. But I caution you. I look at the example-- This is the only thing I want to caution the sponsor-- In 1999, there was a bill that I sponsored that was

signed into law. That bill said that this State had 10 years to reduce the waiting list for the most severely handicapped people in our state. At that time, the -- for DDD. At that time, the waiting list was 6,000 people. We are one year away from supposedly eliminating the waiting list. We have 8,000 people on that list. It is not going to be cleared by next year. I doubt that we're going to have cleared the environment in the next 11 years or 12 years -- in the year 2020.

So I warn the sponsor of that. This is what happens in the Legislature, as much as we want to do the right thing.

I would have liked to have seen more done to stimulate the energy credits, to stimulate people changing over to energy efficiency. Because in my own business, I can look at that and I can say that if I walked into a building, did an energy audit, I can reduce the cost of that building's energy costs by 30 to 50 percent, like that. That's a fact. We're not doing it. We're not stimulating that.

Maybe this bill will have something to do with it. I only hope that it happens. But I just had to say that on the bill.

And I am voting yes.

Thank you, Mr. Chairman.

ASSEMBLYMAN McKEON: Thank you, Assemblyman.

MS. CALVO-HAHN: Assemblyman Chatzidakis.

ASSEMBLYMAN CHATZIDAKIS: Yes, thank you.

I will be voting yes, weighing all the arguments we've heard and the arguments over the years.

However, we refer to Washington. I really just look at the last 35 years, going back to the first oil embargo back in '71, and the lack of

having a cohesive energy policy for this country. When you see a country like Brazil that, today, is energy efficient, running on E85 methanol fuel for older vehicles-- And they've done some offshore drilling, but basically they're just self-reliant. So in absence of that, as Assemblyman Rooney mentioned, hopefully this bill will be a catalyst for initiative into renewable energies, and we install LEEDS program.

And I've visited one of the PNC branches, and I've spoken to the employees there. There's less absenteeism, there's less illness. And hopefully, with projects like this and this bill, it would help this type of renewable energy be focused on.

I have many bills involved with renewable energy. Hopefully this will be a catalyst to move forward and do what we can in New Jersey. Perhaps other states will start following.

Thank you.

MS. CALVO-HAHN: Assemblywoman Greenstein.

ASSEMBLYWOMAN GREENSTEIN: I'm proud to be one of the prime sponsors of the bill. And I want to commend Assemblywoman Stender for her leadership on this, and Chairman McKeon, as well.

To me, the problem is a tremendous one and, in some ways, a simple one. It would be much better if this were happening in all the states. But I agree with the Assemblyman that maybe our lead will get the other states to do what they need to do.

But it's really three parts. It's a real problem. We've learned that it's caused by ourselves. And it's a solvable problem if we do what we need to do over the next 50 years or so. And I think that it's incumbent

upon us to do everything we can. So I'm very glad that we're doing this bill, and I vote yes.

Thank you.

MS. CALVO-HAHN: Assemblyman Manzo.

ASSEMBLYMAN MANZO: Thank you.

I, too, want to commend the sponsors. And it's more of a leadership position for our State to step forward on this issue. I think I share many of the sentiments that Assemblyman Rooney stated. What he said is, really, our inconvenient truth that unless we're able to demonstrate to other nations, who are coming online now, the need to achieve environmentally sound energy policies, while New Jersey leads we will have very little of an impact. But that's not to say we shouldn't step ahead and lead.

Hopefully, this bill will lead to those energy audits that I think can have the most impact in achieving what the intentions of this bill will do.

But needless to say, I salute you, Assemblywoman, on your endeavor, and the courage to put New Jersey in the leadership position on this issue.

And I vote aye.

MS. CALVO-HAHN: Thank you.

Assemblyman Epps.

ASSEMBLYMAN EPPS: I'd just like to congratulate the sponsors of this bill. I think it's admirable that you brought this forward to this Committee. And I'm just proud to vote yes. And I vote yes.

MS. CALVO-HAHN: Thank you.

Vice Chairman Gordon.

ASSEMBLYMAN GORDON: Thank you.

I'd also like to thank the sponsors for this bill.

We recently heard about the results of the world climate study that was released recently, I believe, in Paris, which indicated that while we're not at the point of no return in terms of trying to reverse global warming, we are getting very close to that point. And while I agree with my colleague, Assemblyman Rooney, that this bill may not have a great impact -- particularly in the concept of 500 coal-fired plants coming online in China and India -- I do think we need to send the message. And when the Federal Government isn't acting, the states have to act. We have to be those laboratories of democracy that Jefferson referred to.

A few decades ago, California decided that there was something wrong with the quality of their air, and they thought that automobiles had something to do with it. And they started passing legislation affecting auto emissions. And the rest of the country has followed suit. And I think we have to take a leadership position here, send a signal to Washington. Hopefully, at some point soon, there will be a national energy policy that addresses this, and, perhaps, America participating in an international compact on this.

But this is an important start, and I think we should take it.

And I vote aye.

Thank you.

MS. CALVO-HAHN: Thank you.

Chairman McKeon.

ASSEMBLYMAN McKEON: Thank you very much.

And thanks to everyone; it goes without saying, to the prime sponsor and all the sponsors, and Senator Buono on the other side of the Legislature, for their leadership in moving this matter forward.

I'll just take a minute or two, just to share with you a couple of thoughts. The other day, when we were teasing at the hearing in West Orange -- and they showed us the Newark Airport and the Turnpike filled over with water should we continue on the course that we're traveling, I said, "We better sell the Turnpike real quick."

And, Lou, I think you said something to the extent: "Yes, to Sea World," right?

ASSEMBLYMAN MANZO: Yes.

ASSEMBLYMAN McKEON: And if it wasn't so funny, it's incredibly sad. We are on a suicidal path to destroying our world -- not just the state, the country -- but literally the world. And if any of the credible scientific evidence -- or half of it -- is to be believed, this is something we're going to see in the lifetime of our children. And for some of those who are younger out in the audience -- not like at least several of us up here -- for some of us.

ASSEMBLYMAN EPPS: Speak for yourself. (laughter)

ASSEMBLYMAN McKEON: It's mind boggling that that's what we're literally speaking about.

But that having been said-- We can all trash the Federal government as much as we should. And frankly, in my view, we can't do that enough in light of the lack of leadership, on something this important and this eminent, out of Washington. And in the long run, whether it's this administration, or ones before that, the politics do not matter. The long-

term legacy of those administrations -- of any administration on a going-forward basis -- for not doing this in the most emergent way will be a legacy that they'll never escape, and shameful.

But that having been said, I don't know how feel-good I am today about this legislation because of the fact, in this state, that industrial and commercial energy -- the things that Mr. Egenton had brought up -- is, we're in the top 10 percent of cost in the nation. Demand in New Jersey alone last year went up by 350 megawatts, and only 45 new megawatts in nonrenewables was brought to bear. I mean, talk about going and reversing back to 1990 levels -- where are we going to go just to meet our continued demand as it increases? New Jersey imports 30 percent of its power. How will that work with our standards, that are not applicable to the PJM where we sit in, as far as the cost of that particular energy?

So the long and the short of it is, clearly the devil is in the detail. And easier said than done. And Assemblywoman Stender and all of us have an incredible challenge going forward, listening to those who produce energy, knowing how we use it, and knowing how we have to have the wisdom to put together a program to reach these laudable goals.

And I guess, at the end of the day-- And Assemblywoman Greenstein, when I mentioned something at the Sierra Club event not too long ago, mentioned to me this was actually a Talmudic proverb of some sort. But understanding what could be happening in China, what could be happening in Tanzania as they develop -- and, gosh, what's happening in Pennsylvania-- There's that story about the person who sees a thousand clam shells on the beach, and picks one up, and throws it into the ocean. And his partner next to him says, "What's the use? There's just thousands

here. You'll never--" That's it. "It meant something to that clam that I threw it back in."

So, to that extent, today we've done something that means something to New Jersey, and is a very small part of the big picture of what this world needs to do to save us from doom.

So with that, I'll vote for this bill.

MS. CALVO-HAHN: Thank you.

The bill, as amended, is moved.

ASSEMBLYMAN McKEON: Okay.

We're adjourned. We'll see you all on March 12.

(MEETING CONCLUDED)

NJ GREEN
Feb. 26, 2007
M. C. Trachtenberg
mctrachtenberg@comcast.net

PHILOSOPHICAL OVERVIEW

I believe in acting as adults, that is: You pay for what you do.

I favor:

- Use Taxes
- Feebates
- Strong standards

I do not favor:

- Detailed accomplishment methods

Setting goals is preferred to defining the path that should be taken.

To the extent possible

- Eliminate subsidies and externalities
- Tie fees to use and responsibility
- Use feebates to offset rulings that would harm the disadvantaged
- Treat the disadvantaged as adults

Whenever possible:

- Intervene by biasing the market towards preferred ends
- Let the market come to a steady state on its own

As the Greeks saw it, government should steer - not row.

Knowledge and belief drive decisions. Therefore, PR campaigns are critical to selling a message to both the public and corporations, and gaining their necessary cooperation.

ENERGY / POWER PRODUCTION

Geothermal

The overwhelming advantage of geothermal energy for all fixed site construction is: decrease in the maximal temperature swing that must be accommodated from 0°-70°F (Δ = 70°F) and 70°-105°F (Δ = 35°F) vs. 58°-70°F (Δ = 12°F) and 70°-58°F (Δ = 12°F). The combined temperature differential with geothermal is 24°F vs. 105°F without, a reduction of 437%. On the basis of average temperatures in Newark the range is 30.6° in winter to 77.8° in summer resulting in a difference of 47.2°F vs. only a 24°F with geothermal.

ACTION: Mandate installation of geothermal for all new construction with initial emphasis on larger construction – town homes, retail and office space. Provide a review of methods and a rating of installers to provide state-of-mind security for purchasers.

Solar

New solar panels (under development) have capture efficiencies up to 45% (3X that of plants) and approximately 40% better than existing material.

ACTION: Tax basis should encourage installation of the most efficient solar panes by tying rebates to performance efficiency.

Wind

Testimony stated that offshore wind could provide 84% of NJ energy. However, NIMBY concerns are preventing installation. Statewide regulations should promote installation. People have accommodated to wind farms elsewhere in the US and the world.

ACTION: Testimony and a PR campaign should be put forth to familiarize and encourage the public to their installation. This could be funded by taxes on large vendors.

Tidal

Tidal energy capture experiments are underway in the East River, NYC.

ACTION: Applicability to other sites in NY harbor should be examined to determine its cost/benefit.

Nuclear

Pebble reactors and other new designs are far safer and more reliable than older generation designs. PSEG and other power companies are prepared to move forward.

ACTION: A PR campaign to acquaint the public with a) daily emissions from coal, natural gas, fuel oil, and nuclear and the attendant costs in terms of illness and environmental damage and b) the same for long term costs and risks allowing that low probability, high potential severity events are grossly overrated while daily events are grossly underrated.

Biofuels

Despite the interest of corn producers there are significant issues with ethanol. First, overall system cost is quite high and may be energy negative. Second, Ethanol has only 70% the energy of gasoline and has a higher vapor pressure, which leads to more evaporative emissions. Cropland production of any kind uses water, and acreage needed for foodstuffs, and negatively adds fertilizer and pesticides to the environment.

ACTION: Carefully examine the cost/benefit tradeoff to determine both economic and environmental balance. Current political and economic drivers should be evaluated to determine the veracity of their assertions.

Hydrocarbons

Obtaining hydrocarbon fuels (gasoline, for example) by drilling for, transporting and refining crude oil has numerous detrimental effects including:

1) adversely affects the US balance of payments
2) creates dependencies on foreign countries and an attendant vulnerability to their form of government
3) contributes to military expenditures to protect the oil
4) distorts the market by providing subsidies and externalities

5) creates environmental vulnerabilities due to spills in drilling and in transport
6) combustion of the product contributes significantly to greenhouse gas levels

One trend and one new technology promise relief.
The trend is the development of hybrid-electric vehicles, which, in the next decade or so will begin to be replaced by electric vehicles (as battery characteristics improve). This will transfer pollutants from mobile to stationary sources, as power plants become the major supplier for energy.

The technology is the ability to reduce (convert) CO_2 back to liquid hydrocarbon fuels. The total amount of CO_2 (on a carbon molar basis) released by power plants in the US almost exactly matches the total amount of gasoline used in the US. If this CO_2 were converted into gasoline it would have two major benefits. First, it would significantly reduce the detrimental effects noted above. Second, it would decrease total US CO_2 emissions by about 23%.

Biotechnology biofuels is a process that captures the chemical reactions of plants and uses them in fermenters to maximize yield, i.e., the cost of supporting the living plant is eliminated. Less than 10% of overall sunlight is available as plant product suitable for conversion to ethanol. The projected cost for using a biotechnology biofuel approach is about $1/gal vs. ~$0.75 for petroleum and $1.90 for ethanol (but controlled for equal energy the cost is ~2.70). Clearly a biofuels approach would be preferred.

TRANSPORTATION

The limits on use of public transportation rest on:
a) inaccessibility of transport,
b) infrequency of transport,
c) inability of public transport to serve a suburban, exurban and rural lifestyle, and
d) inefficiencies in operating transport.

Each of these factors has to be addressed to change the usage profile.

Roadways

NJ relies highly on a road system installed 40-50 years ago as the US Highway system. Many major traffic corridors need to be upgraded to be akin to the Interstate Highway System, though not necessarily becoming part of that program. For example, US 1 between Newark and Trenton needs a major upgrade. It requires widening to 3 traffic lanes in each direction and elimination of intersection traffic lights to promote effective traffic patterns.

These goals can be accomplished by:
a) requiring widening of the corridor on their property line to a total of four lanes (three traffic and one entry/exit from their establishment) with each transfer of property ownership.
b) Placing overpasses at every available site choosing the least controversial first thereby putting political pressure on the least cooperative (e.g., Princeton-West Windsor).
c) In anticipation of electric/electronic vehicles an updated version of the old Intelligent Vehicle Highway Automation has to be started with a 15-year development horizon.

Vehicles
Vehicles present at least three problems:
1) mass damaging road surface and emitting particles as rubber, concrete and asphalt,
2) tailpipe emission pollutants, and
3) fluid leakage.

The particles released have a significant effect on inducing asthma. Thus large vehicles enjoy an externality by transferring their damage to roadways, into health care and productivity losses. Mass is best managed by annual taxation, most likely to the square of the mass. Fuels should be taxed to reflect pollutants and total miles driven (not easy). This is a straightforward use tax. Gas-guzzler taxes should be eliminated; they are deliberately punitive to wealth or selection of inefficiency but not to use of inefficiency.

Rail and Commuter Rail
Large train systems – cars, engines, track, stations, and methods - have to be grossly overhauled to reflect the most modern self-use service modes. As needed, staff must be trimmed, jobs re-described, rigidities eliminated and old work rules abandoned. European models should be examined. A 20-year program should be put in place.

Bus/Light Rail
The model adopted in Curitiba Brazil via Mayor Jaime Lerner must be examined carefully. Lerner should be used as a major consultant.

GREENHOUSE GAS CAPTURE / ABATEMENT

Carbon Dioxide
INDUSTRIAL – Utilities are the major source of CO_2 followed by refineries, metals, cement, paper, food processing, and independent power producers. These sites are large enough point sources to be treated individually. Capture of CO_2 will be able to be done cost efficiently. However, pipeline transportation is likely to run into high cost, delays and permit problems. Geologic storage has distinct problems in various parts of the US particularly the east coast. There is a deep saline reservoir off the coast of NJ, however no other convenient sites exist.

Alternate methods must be found for storage. One is production of carbonates or of bicarbonates. The latter will have to be put in deep wells or in the ocean (bicarbonate, unlike CO_2, is not injurious to ocean biota). A second approach would use the CO_2 as start material for beneficial use, cf. Hydrocarbons, above.

RESIDENTIAL / COMMERCIAL – The CO_2 can be captured and, if pipelines are laid in the street akin to natural gas or water or sewer lines, could be collected and brought to a central site, akin to a water tower, collecting small volume sites into a single large volume point source. This would make it easier and more economical to be treated, cf. Industrial, above.

TRANSPORTATION – Unless and until there are changes in vehicles to replace internal combustion engines (ICE) the only hope of benefit is by increasing efficiency and lowering the

weight of vehicles, adjunct to improvement in public transportation, road structures and road logic.

Methane
Coalmines, pipeline leaks, inefficient burning, animal flatus, landfill releases and soil-based methanogens (included in the agriculture section) are principal sources of methane. Changes to no-till farming could be a major benefit, as would introduction of leak detection systems and replacement of valves, etc.

Nitrous Oxide
Dry cleaning, caprolactam production, oil cracking, wastewater treatment, and domestic animal waste disposal are major sources of NO_2. Supercritical CO_2 is a well-known and commercialized cleaning agent to replace current materials. Taxation should favor this use.

SUSTAINABILITY

General
Replacement with newer, better technology is greatly preferred to rebuilding, and rebuilding is prewferred to refurbishment. Tax structure should encourage large-scale upgrade (including demolishment) at all relevant levels. Aggregating points for improvement benefit does this and provides a multiplier as the savings value increases.

Building Code
NJ needs a uniform, tough building code. The code that exists is minimal and supplemented by townships on a capricious basis. This increases costs for no reasonable or useful reason.

Commercial / Residential
Prefabricated houses have distinct advantages over stick-built, site-built housing. Encouraging this industry will allow for more rapid introduction of improvements.

Despite significant improvements in burners (HHV devices) overall forced air heating and cooling is surprisingly inefficient, in terms of the perception of comfort, and rapidity response in terms of changes of air distribution patterns, and air exchange. Providing a time related comfort index and other guides to the perception of comfort should encourage alternate approaches.

Appliances / Lighting, etc.
The current pricing model is that the new, advanced model, is far more expensive than the old inefficient model. Given the lifetime of appliances 3-7 years, this pricing model (nominally justified on recouping R, D&E costs) discourages rapid replacement. Appliances should be viewed as computers or telephones where the turnover is high. This can be aided by introduction of an energy efficiency tax feebate (the Energy Star approach is inadequate – information is insufficient). People make selections on the basis of capital cost not operating cost with capture of the investment over 3-7 years. A one-year cost capture is needed. The result would be that manufacturers cease to offer low-end machinery replacing it with the higher end goods, whose now increased volume effectively pays back the R, D&E costs, i.e., use volume to drive revenues not price. Introduction of a strategy effectively used in Japan would also help. Here a new

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development must be shared with competitors over a 3-year period giving the developer advantages but preventing egregious use of advantage not in the public interest. (Data exist on these practices and their efficacy).

NJ CT NY
Regional Plan Association

New Jersey Global Warming Response Act (A3301/S2114)
Environment Committee Vote
February 26th, 2007

Statement by
Carlos Rodrigues PP / AICP
Vice President and New Jersey Director
Regional Plan Association

RE: Oversight New Jersey Global Warming Response Act (A3301/S2114)

Thank you for this opportunity to testify and, more importantly, for your interest in helping to address energy and greenhouse gas emissions in the State of New Jersey. The State, through its early action and leadership on climate change, can play an important role in the future of reducing greenhouse gas emissions, increasing energy efficiency and clean energy resources. We appreciate your leadership on this issue.

My name is Carlos Rodrigues. I am Vice President and New Jersey Director for Regional Plan Association (RPA), the Nation's oldest civic group dedicated to regional planning and to improving the quality of life and the economic competitiveness of the 31-county New York-New Jersey-Connecticut region through research, planning, and advocacy. For over 80 years, RPA has been shaping transportation systems, protecting open spaces, and promoting better community design in the region. We anticipate the challenges our region will face in the years to come, and we mobilize the region's civic, business, and government sectors to take action.

RPA is proud to support Governor Corzine's recent Executive Order establishing science-based global warming pollution reduction goals for New Jersey. The bill will require a cap on global warming pollution to below 1990 levels by the year 2020, a 20 percent reduction below current levels. This ground-breaking legislation will turn the Governor's short-term reduction goal into law. We commend the Governor for outlining this remarkable agenda. We look forward to working with the Governor, the State, and the civic community in assessing how best to move from lofty goals to concrete action.

The New Jersey Global Warming Response Act (A3301/S2114) goes beyond the requirements of the Regional Greenhouse Gas Initiative (RGGI) to reduce greenhouse gas emissions from the electricity sector, instead requiring New Jersey Department of Environmental Protection (NJDEP) to establish a mechanism for regulating greenhouse gas emmisions by sectors. The bill is modeled after the California global warming

legislation that passed last year (AB32). The bill also addresses social concerns by requiring that the emission-limiting scheme "does not disproportionately burden low-income and moderate-income households."

To do so, the State should pursue a three part strategy to:

1. Establish a comprehensive and expedited planning process leading to a market-based regulatory program that provides for compliance flexibility;

2. Ensure the safety of our coastal communities, through the protection of irreplaceable wetlands and remaining open spaces, the management of storm water, and the restoration of the hydrologic functions of watersheds, streams and natural shorelines throughout the state;

3. Guarantee that future development will lead to the most energy and location efficient transportation and land use patterns;

1. Establish a comprehensive and expedited planning process leading to a market-based regulatory program that provides for compliance flexibility

Recent New Jersey action and leadership has put the state on track to achieve its goals for global warming pollution reduction. These policies include participation in the Regional Greenhouse Gas Initiative (RGGI) an agreement between 10 Northeastern states to reduce global warming pollution from power plants, a 20 percent reduction by 2020 Clean Energy Standards, Energy Efficiency programs, and the Clean Cars Program which requires an increasing percentage of low-emissions and zero-emissions vehicles to be sold in the state.

In 2004, Former Governor McGreevey signed legislation (S2351/A3393) that applied the "California Clean Car" emissions standards to cars sold in New Jersey. The Clean Cars Program requires an increasing percentage of low-emissions and zero-emissions vehicles to be sold in the state. In 2009, NJDEP will begin implementing the California Low Emission Vehicle (LEV) program, which requires reductions in tailpipe and evaporative emissions of hydrocarbons and nitrogen oxides for all passenger cars, light-duty trucks and sport utility vehicles. The new emissions standards will require carmakers to produce approximately 40,000 gas electric hybrid cars and 128,000 super clean gasoline powered cars. Zero emission vehicles, including those bought for lease will also be exempt from State sales tax and use tax under the new law.

It is vital to ensure New Jersey's commitment to tackling this problem is not superseded by imported electricity generated by coal-fired power plants in nearby states.

The current U.S. Energy Plan contains over a hundred proposals for coal-fired power plants with the potential to wipe out all of the global warming emissions reductions in the RGGI. Another threat is American Electric Power's proposed $3 billion 765-kv transmission line that would pump in dirty energy from West Virginia to New Jersey.

Investments in clean energy and energy efficiency programs are essential to achieving emissions reductions, spur economic growth, and allow for successful cap-and-trade programs. Rutgers university found the states Clean Energy Standard would add approximately 11,700 jobs and related economic benefits to the state economy. The Clean Energy Standard has allowed the state to become a manufacturing leader for solar and wind. The price of clean energy is already declining rapidly. In less that ten years, clean, offshore wind electricity is projected to be 4 to 5 cents/kWh -- half of New Jersey's current 10 cent/kWh electricity prices. The state's Public Benefit Fund demonstrates leadership and continued support of energy efficiency programs spending on average $1.3 million per kWh.

2. Ensure the safety of our coastal communities, through the protection of irreplaceable wetlands and remaining open spaces, the management of storm water, and the restoration of the hydrologic functions of watersheds, streams and natural shorelines throughout the state;

Rising sea levels, due to Climate Change threaten to cause chronic flooding in over 9 percent of New Jersey's land, including the Meadowlands, Atlantic City, Cape May, the Delaware Bay Shore and Long Beach Island. These coastal areas are densely populated and support a $16 billion tourism industry. Fortunately, we have the tools to reduce climate impacts through the immediate reduction of greenhouse gas emissions and the reinforcement and protection of irreplaceable wetlands coastal watersheds. By implementing the Global Warming Response Act, New Jersey will be on the right track minimizing the amount of sea level rise and its potentially devastating consequences.

Key to the success of that effort will be restoring and conserving the estuarine system that New Jersey was built on. Regional Plan Association recently compiled a map of the historic wetlands of New York – New Jersey Harbor. Of the 86 square miles of coastal wetlands that once fringed the edges of the harbor, only 14 miles remain. While we can never replace that green infrastructure – the sponge-like ecosystem that cleaned the Harbor's water and sustained its fisheries and wildlife – we can seek to restore the structure and function of the estuary.

3. Guarantee that future development will lead to the most energy and location efficient transportation and land use patterns;

Regional Plan Association
NJ CT NY

Half of greenhouse gas emissions in New Jersey come from the transportation sector. There are many opportunities for increased use of public transportation and smarter, higher density growth to reduce these transportation-related emissions. The State should aggressively pursue implementation of the policies of the State Development and Redevelopment Plan, in particular its smart growth redevelopment components and redirect State infrastructure investments and subsidies to those areas most capable of absorbing growth while stimulating walking, biking and transit use.

Again, thank you for your interest and for the opportunity to testify on this issue.

New Jersey Business & Industry Association

NJBIA

February 26, 2007

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TO: Members of the Assembly Environment Committee

FR: Sara Bluhm, Assistant Vice President
New Jersey Business & Industry Association

RE: A-3301(Stender/Vanieri Huttle) Global Warming Response Act

On behalf of the 23,600 members of the New Jersey Business & Industry Association, I am here today to oppose A-3301 (Stender, Vanieri Huttle) which expands the regulations for greenhouse gas emissions. Respectfully, NJBIA asks that you hold this bill today as we have serious economic concerns regarding this legislation and its impacts on electric prices which we would like to further address with the sponsor.

New Jersey is already at the forefront on climate change. To be clear: our State is doing something about global warming. For over three years we have been a part of the Regional Greenhouse Gas Initiative (RGGI). In an effort to demonstrate that not one single state in our region can combat global warming on its own, New Jersey has joined other states to urge a national greenhouse gas policy. NJBIA has been a stakeholder in the RGGI process and does not agree with a single state greenhouse gas policy as proposed in this legislation.

In October 2006 Governor Corzine announced the updating of the State's Energy Master Plan (EMP). An aggressive one year timeframe to review, analyze, and plan for the State's future electric, transportation, home heating and natural gas needs. Since December the Board of Public Utilities has been coordinating this interagency planning process that has relied on public working groups to address the problems, challenges, and strategies for the many subgroups of the plan. NJBIA has been a participating stakeholder in virtually all of the working groups. Furthermore, we have represented industry to both CEEEP and NJSSI who have been hired to do the modeling of the EMP. The NJSSI modeling will specifically deal with carbon targets.

The EMP needs to finish before the legislature starts mandating energy policy. Since deregulation occurred the ratepayers of this State, including the commercial and industrial rate payer, have funded the Clean Energy Program. This Program is tasked with providing energy efficiency and renewable energy rebates, incentives and guidance. However, since this Program was begun and deregulation occurred, energy prices have gone up every year. The Board of Public Utilities concluded its annual BGS auction a few weeks ago and again ratepayers of this State will be experiencing double digit increases. Our

industrial rate payers have the 4th highest electric rates in the nation and our commercial ratepayers have the eleventh highest electric rates in the nation. The State needs to have economic modeling to balance any environmental approach.

While this bill aims to protect our State from change in sea level, it does nothing to address energy infrastructure and reliability. In fact, it penalizes instate generators of electricity, oil refineries, natural gas pipelines and industry. Yet, it is often these sources which protect our State from electric blackouts. New Jersey witnessed the devastation of electric grid failure several years ago. Since then steps have been taken to insure the adequate reliable delivery of electricity in our State. Since deregulation, our electric utilities have been forced to sell off their generators. Neither the State nor PJM can compel a generator to run. While PJM and FERC often enter into Reliability Must Run (RMR) agreements with generators to insure electric stability, there are no longer regulations requiring utility companies to run generation.

NJBIA opposes A-3301 on the basis of economics. New Jersey is already a leader in climate change and this bill would be taking a step backward not forward.

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11 N. Willow St, Trenton, NJ 08608
609-394-8155 (ph) 609-989-9013 (fx)
www.environmentnewjersey.org

Testimony before the Assembly Environment and Solid Waste Committee
Urging Passage of the Global Warming Response Act (A3301/S2114)
Suzanne Leta Liou, Global Warming and Clean Energy Advocate
February 26, 2007

Thank you for the opportunity to testify before you today. I am Suzanne Leta Liou, the Global Warming and Clean Energy Advocate for Environment New Jersey. Environment New Jersey, the new home of NJPIRG's environmental work, is a non-partisan, non-profit environmental advocacy organization with over 20,000 citizen members across the state. We advocate for clean air, clean water and open spaces and we have a 30-year history of promoting and winning clean energy solutions for New Jersey.

Right now, our top priority is to tackle the greatest and most urgent environmental challenge of our time: global warming. New Jerseyans know that global warming is real. It will devastate our state's economy, ruin our treasured shoreline and wreak havoc on public health if we do not take quick and decisive action to cut our greenhouse gas emissions.

While global warming is very serious, it is solvable. By cutting global warming pollution, primarily carbon dioxide, by roughly 20 percent below current levels by 2020 and 80 percent by 2050, we can avoid the worst effects of global warming, protecting our children and future generations.

We have the solutions available right now to achieve these reductions. These solutions will also grow our economy by promoting investment in clean, renewable energy technologies, protect consumers from rising energy prices and preserve the environment in a multitude of ways.

In order to ensure this becomes a reality, however, we need the state legislature to pass the Global Warming Response Act. This ground-breaking legislation requires mandatory limits on all global warming pollution from all sources statewide to below 1990 levels by the year 2020, about a 20 percent reduction below current levels. The state Department of Environmental Protection (DEP), in consultation with other state agencies, is directed to develop rules and programs to carry out this task. If New Jersey passes of this legislation, we will be the second state in the nation to pass a comprehensive solution to global warming.

New Jersey is incredibly well-positioned to meet the goal of this bill and ensure that we receive the immense benefits from being at the vanguard of global warming solutions. We already have essential building blocks in place -- the Regional Greenhouse Gas Initiative, the Clean Cars Program, the Clean Energy Standard and energy efficiency programs. And while it is true that our global warming pollution is projected to grow by 10 percent in the next two decades if we

don't take further action, if we didn't have these building blocks, our pollution would grow by 26 percent in next two decades.

There are a multitude of strategies to achieve further reductions below current levels -- Environment New Jersey's recently-released "Blueprint for Action" report details 11 specific strategies that the state can employ right away to get us on the right track – strategies that will reduce New Jersey's global warming pollution by 7.5 percent below current levels in the next two decades.

Even more important, we have the ability to dramatically cut our emissions and grow our economy at the same time.

Venture capitalists are chomping at the bit for these solutions because they understand that a high price for carbon is coming and they need to stay ahead of the curve. Right now, the investment community is ramping up their clean energy portfolios with the knowledge that the high price of carbon is just around the corner. They see the urgent need for a new kind of economy, a clean energy economy.

And right now New Jersey is faced with the same opportunity. We can be laggards and continue our reliance on the dirty, polluting, fossil-fuel based industry of the past, or we can be leaders and develop a niche market for our state producing the clean energy technologies of the future. Our leadership will ensure New Jersey is ahead of the curve and receives tremendous economic gain and business opportunities as a result.

And in New Jersey, investments in clean energy and energy efficiency are essential to spurring economic growth. A Rutgers University found that the state Clean Energy Standard would add approximately 11,700 jobs and related economic benefits to the state economy, with even greater benefits if the state becomes a manufacturing leader for solar and wind. Governor Corzine understands the benefits – in his economic growth plan, clean energy is one of six industries to be supported by the Edison Innovation Fund.

The price of clean energy is rapidly declining. According to the National Renewable Energy Laboratory the price of electricity from deep water offshore wind could be less than 7 cents a kWh by 2009 and 5 cents kWh by 2015. For shallow water wind energy, price of electricity be less than 4 cents a kWh by 2015. In comparison, electricity for New Jersey consumers from this year's auction resulted in prices of 10 cents per kWh. So in less than ten years, clean wind electricity is projected to be half the price of our current mix of power plants.

The price of solar energy is also declining and should become cost competitive with conventional sources of electricity within the next ten years. The goal of the U.S. Solar America Initiative, for example, is to reduce solar photovoltaic costs from the current 13 to 22 cents per kWh to 9 to 18 cents per kWh by 2010.

New Jersey's Clean Energy Standard has already created a burgeoning solar industry in our state. 5 years ago, there were 6 solar installations in the state – now there are over 1,800. New Jersey is also home to the first utility scale coastal wind farm in Atlantic County, generating enough electricity to power 2,500 homes.

In the next 20 years, we can meet, beat and further expand our use of clean energy in New Jersey. New Jersey's offshore wind potential is immense – a recent study for the BPU found that wind power developed off New Jersey's shore could potentially exceed the electricity generation of all

the current fossil and nuclear power plants in the state. Even greater potential exists in deeper waters and far offshore areas that have consistent, strong winds. New Jersey also has the potential to be the Saudi Arabia of solar energy – New Jersey boasts 100 sunny days a year and millions of rooftops.

The state's energy efficiency programs have also been very successful; in 2005, the programs saved enough electricity to provide the annual electricity requirements of approximately 50,000 New Jersey homes. Since the programs started in 2001, they have reduced total electricity demand by 450 megawatts, (MW) the equivalent of a mid-sized power plant.

Efficiency programs, which include energy audits, incentives to purchase energy efficient appliances and financial assistance to retrofit power plants to be more efficient. Energy efficiency reduces electricity use and saves ratepayers money. Energy efficiency is actually a boon to consumers in two ways. First, it reduces individual ratepayers' utility bills because they are using less electricity. Second, it reduces the state's total demand for electricity, which reduces the price of electricity overall. In fact, according to the New Jersey Board of Public Utilities (BPU), recently energy efficiency improvements were accomplished for roughly one-fifth the cost of electricity purchases. And our current efficiency programs are only a glimpse of what is possible – we have the ability to reduce our energy demand by as much as 10 percent below current levels by 2020.

The economic growth potential of global warming solutions is further evidenced by a recent study conducted by the University of California at Berkeley which found that cutting California's emissions to below 1990 levels by 2020 could boost the annual Gross State Product by $60 billion and create 17,000 new jobs by 2020. The study found that the gains could be even larger -- $74 billion in annual GSP and 89,000 new jobs -- if climate policies are designed to create direct incentives for California companies to invest in new technology.

And if we don't take action, the economic consequences will be devastating. A lauded study by British economist Sir Richard Stern suggested that global warming could shrink the global economy by 20 percent, but taking action now would cost just 1 percent of global gross domestic product. One example of this for New Jersey is our precious shoreline -- if we don't cut our global warming pollution, our coastal treasures, including Atlantic City, Cape May, Long Beach Island, the Meadowlands and the Delaware Bay Shore, will be submerged completely under water or subject to chronic flooding and devastate New Jersey's $16 billion tourism industry.

Fortunately, by taking action now, we can set New Jersey apart by seizing and developing the global warming solutions that other states, the nation and the world are seeking. By taking action now, we can be visionaries. By taking action now, we can set a vital precedent for national legislation. By taking action now, we can show that solving global warming is more than possible, and we can grow our economy at the same time.

To make all of this a reality – to dramatically cut our global warming pollution, to vastly expand our use of clean energy and energy efficiency, to grow our economy – we need leadership from the state legislature.

The best kind of leadership is to pass the Global Warming Response Act. I urge you vote this bill through this committee and do everything you can to ensure it's swift passage in the Legislature.

We can solve global warming, and New Jersey can lead the way.

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Support the Global Warming Response Act (A3301/S2114)

Prime Sponsors: Assemblywoman Linda Stender and Senator Barbara Buono

Global Warming is Real

New Jerseyans know that global warming is real. It will pack a mean punch, especially for our children and future generations, if we don't curb our emissions. For our state, global warming means more flooding and air pollution.

- Our coastal treasures, including all of our prized beaches, are at risk of flooding from sea level rise. Rising sea levels would also contaminate fresh drinking water sources and cause chronic flooding over 9 percent of New Jersey's land, including the Meadowlands, Atlantic City, Cape May, the Delaware Bay Shore and Long Beach Island.
- Global warming also means more dangerous heat waves and more air pollution, putting seniors and children with asthma and other health problems at risk.

Global Warming Solutions

New Jersey can help put the nation on the path to a secure future by tackling global warming.

- We've had a lot of success here in New Jersey adopting policies to reduce our global warming emissions, but even with those policies in place, our emissions are projected to grow by 10 percent in the next two decades. It is clear that much more must be done.
- To avoid the worst effects of global warming, scientists say that we must cut global warming emissions by 80 percent by the middle of this century. We can do that by making big changes to reduce our energy consumption, shifting to clean, renewable sources of energy and requiring global warming polluters to pay for every pound of global warming pollution they emit.
- New Jersey's commitment to tackling global warming can have a big impact. If New Jersey were it's own country, we would rank 32nd in the world for global warming emissions -- more than Argentina, Greece and Israel. New Jersey can also show other states and the nation that solving global warming is more than possible.

To do this Environment New Jersey urges the New Jersey legislature to pass the Global Warming Response Act (A3301/S2114) requiring mandatory limits on our total global warming emissions.

The Global Warming Response Act

A3301/S2114, sponsored by Assemblywoman Linda Stender (D-22) and Senator Barbara Buono (D-18), requires mandatory limits on New Jersey's global warming emissions from all sources. It is modeled off the California Global Warming Solutions Act, AB32 (Nunez/Pavley).

Specifically, the act requires the New Jersey Department of Environmental Protection (NJDEP) to establish a greenhouse gas reduction program to reduce the global warming emissions, primarily carbon dioxide, produced in New Jersey to below 1990 levels (roughly 20 percent below current levels) by 2020.

- Within a year of the act's passage, the NJDEP is required to establish relevant global warming emissions inventories, prioritize sources for global warming emissions reductions and adopt rules and regulations to achieve reductions below 1990 levels by 2020.

- On or before January 2008, the act requires the NJDEP to establish a global warming emissions monitoring and reduction program and establish a series of interim emissions reduction requirements targeting specific sources to achieve the reductions. The first global warming reduction requirement must be met by January 1, 2012, and the bill lays out that further reductions be phased in, year-by-year, from 2012 through 2020.

- The act requires the NJDEP to identify, monitor and enforce projected and annual emissions from all sources, including emissions from electricity sources located outside of the state that import electricity for use in New Jersey, and to monitor emissions from all sources. According to the most recent data available, 52 percent of New Jersey's global warming emissions comes from transportation, 16 percent is from in-state electricity generation, 13 percent is from direct use of fossil fuels in homes, 11 percent is from direct use of fossil fuels in industry and 8 percent is from direct use of fossil fuels in commercial business. New Jersey also produces emissions through consumption of electricity generated in other states.

- The act requires that on or before January 1, 2009 and annually thereafter, the NJDEP must report back to the Governor and the legislature on current levels of global warming emissions and progress toward meeting the reduction requirements. By January 1, 2015, the NJDEP must evaluate the attainment or maintenance of the 2020 reduction requirement and adopt further regulations to attain or maintain the 2020 requirement or require further reductions beyond the requirement. If further reductions are required, the NJDEP must establish an additional global warming emissions reduction requirement by 2030 and a schedule to attain that level of reduction.

The Global Warming Response Act is ground-breaking legislation. If passed, New Jersey will be one of the first states to adopt mandatory limits on global warming emissions from all sources.

Environment New Jersey is urging all members of the New Jersey Assembly and Senate to co-sponsor A3301/S2114 without delay.

Global Warming Response Act Q&A

Q: This is a worldwide problem that requires a national solution

A: For years, the Bush Administration and Congress have failed the American public by not addressing the most urgent environmental issue of our time. In the case of global warming, just as with the Clean Cars Act, the Clean Energy Standard and the Regional Greenhouse Gas Initiative, the states are taking the lead and setting a strong precedent for national action.

While there are multiple bills that have been introduced in Congress, only one of them, the Global Warming Pollution Reduction Act/Safe Climate Act, requires mandatory, economy-wide science-based emissions reductions (20% by 2020; 80% by 2050) and support for the clean energy solutions associated with those reductions. Sen. Menendez, Sen. Lautenberg and most of New Jersey's congressional delegation support this legislation, but in order to ensure that strong, clean, science-based federal legislation is passed, they need to show that it is possible to achieve it at the state level.

Cutting New Jersey's emissions will also make a big dent in worldwide global warming pollution – if New Jersey were its own country, we would rank 32nd in the world for global warming pollution.

And by taking action early, New Jersey will reap the economic growth benefits associated with investment in the clean energy and energy efficiency technologies that will result from the bill's implementation.

Q: This bill will increase the cost of electricity

A: Global warming solutions save consumers money with proper pollution cap programs that re-invest in energy efficiency. Energy efficiency programs include energy audits, incentives to purchase energy efficient appliances and financial assistance to retrofit power plants to be more efficient. Energy efficiency reduces electricity use, which in turn reduces global warming pollution, and saves ratepayers money.

Energy efficiency is actually a boon to consumers in two ways. First, it reduces individual ratepayers' utility bills because they are using less electricity. Second, it reduces the state's total demand for electricity, which reduces the price of electricity overall. In fact, according to the New Jersey Board of Public Utilities (BPU), recently energy efficiency improvements were accomplished for roughly one-fifth the cost of electricity purchases. Spending one cent on energy efficiency is the same as spending five cents to purchase the amount of energy saved.

The state's current energy efficiency programs have been very successful; in 2005, the programs saved enough electricity to provide the annual electricity requirements of approximately 50,000 New Jersey homes. Since the programs started in 2001, they have reduced total electricity demand by 450 megawatts, (MW) the equivalent of a mid-sized power plant.

Nonetheless, our current efficiency programs are only a glimpse of what is possible – we have the ability to reduce our energy demand by as much as 10 percent below current levels by 2020.

Q: This bill will devastate New Jersey's economy

A: Venture capitalists are chomping at the bit for these solutions because they understand that a high price for carbon is coming and they need to stay ahead of the curve. Right now, the investment community is ramping up their clean energy portfolios with the knowledge that the high price of carbon is just around the corner. They see the urgent need for a new kind of economy, a clean energy economy.

And right now New Jersey is faced with the same opportunity. We can be laggards and continue our reliance on the dirty, polluting, fossil-fuel based industry of the past, or we can be leaders and develop a niche market for our state producing the clean energy technologies of the future. Our leadership will ensure New Jersey is ahead of the curve and receives tremendous economic gain and business opportunities as a result. By taking action now, we can set New Jersey apart by seizing and developing the global warming solutions that other states, the nation and the world are seeking.

And in New Jersey, investments in clean energy and energy efficiency are essential to spurring economic growth. A Rutgers University found that the state Clean Energy Standard would add approximately 11,700 jobs and related economic benefits to the state economy, with even greater benefits if the state becomes a manufacturing leader for solar and wind. Governor Corzine understands the benefits – in his economic growth plan, clean energy is one of six industries to be supported by the Edison Innovation Fund.

This is further evidenced by a recent study conducted by the University of California at Berkeley which found that cutting California's emissions to below 1990 levels by 2020 could boost the annual Gross State Product by $60 billion and create 17,000 new jobs by 2020. The study found that the gains could be even larger -- $74 billion in annual GSP and 89,000 new jobs -- if climate policies are designed to create direct incentives for California companies to invest in new technology.

And if we don't take action, the economic consequences will be devastating. A lauded study by British economist Sir Richard Stern suggested that global warming could shrink the global economy by 20 percent, but taking action now would cost just 1 percent of global gross domestic product.

Q: Global warming is impossible to solve

A: We have the solutions available right now to achieve these reductions. These solutions will also grow our economy by promoting investment in clean, renewable energy technologies, protect consumers from rising energy prices and preserve the environment in a multitude of ways.

In fact, New Jersey's current policies make our state incredibly well-positioned to meet the goal of this bill and ensure that we receive the immense benefits from being at the vanguard of global warming solutions. New Jersey already has the Regional Greenhouse Gas Initiative, the Clean Cars Program, the Clean Energy Standard and energy efficiency programs. While it is true that our global warming pollution is projected to grow by 10 percent in the next two decades if we don't take further action, if we didn't have these building blocks, our pollution would grow by 26 percent in next two decades.

There are a multitude of strategies to achieve further reductions below current levels -- Environment New Jersey's recently-released "Blueprint for Action" report details 11 specific strategies that the state can employ right away to get us on the right track – strategies that will

reduce New Jersey's global warming pollution by 7.5 percent below current levels in the next two decades.

Q: Global warming pollution from other states will offset all of New Jersey's reductions

A: It is true that we cannot allow actions taken in other states to undermine and override all our good progress. New Jersey imports 20-30 percent of our electricity from other states, and much of that electricity is from dirty, coal-fired power plants in Pennsylvania. We are also threatened by proposals for new dirty plant construction and mega-transmission lines.

We can tackle this problem head-on to achieve our goals by requiring a global warming emissions portfolio standard. Put simply, this standard would require all electricity imported to New Jersey to meet our emissions cap. We are working right now on language for this standard and believe that it should be a separate but complementary piece of legislation to the Global Warming Response Act.

We are also part of the Regional Greenhouse Gas Initiative, an agreement between 10 Northeastern states establishing a cap-and-trade program to reduce global warming pollution from power plants. Under this program, New Jersey will reduce global warming pollution from power plants by 10 percent below 2009 levels by 2019, a real contribution toward the goals of the legislation before you today.

Q: Clean energy technology is too expensive

A: The price of clean energy is rapidly declining. According to the National Renewable Energy Laboratory the price of electricity from deep water offshore wind could be less than 7 cents a kWh by 2009 and 5 cents kWh by 2015. For shallow water wind energy, price of electricity be less than 4 cents a kWh by 2015. In comparison, electricity for New Jersey consumers from this year's auction resulted in prices of 10 cents per kWh. So in less than ten years, clean wind electricity is projected to be half the price of our current mix of power plants.

The price of solar energy is also declining and should become cost competitive with conventional sources of electricity within the next ten years. The goal of the U.S. Solar America Initiative, for example, is to reduce solar photovoltaic costs from the current 13 to 22 cents per kWh to 9 to 18 cents per kWh by 2010.

Q: Clean energy technology isn't available

A: New Jersey has one of the best Clean Energy Standards in the nation, requiring that 20 percent of the electricity used in New Jersey comes from clean, renewable sources like wind and solar. This program has created a burgeoning solar industry in our state. 5 years ago, there were 6 solar installations in the state – now there are over 1,800. New Jersey is also home to the first utility scale coastal wind farm in Atlantic County, generating enough electricity to power 2,500 homes.

In the next 20 years, we can meet, beat and further expand our use of clean energy in New Jersey. New Jersey's offshore wind potential is immense – a recent study for the BPU found that wind power developed off New Jersey's shore could potentially exceed the electricity generation of all the current fossil and nuclear power plants in the state. Even greater potential exists in deeper waters and far offshore areas that have consistent, strong winds. New Jersey also has the potential to be the Saudi Arabia of solar energy – New Jersey boasts 100 sunny days a year and millions of rooftops.

Q: This bill doesn't include details about implementation

A: This bill is a comprehensive solution to global warming because it requires the DEP, in consultation with other state agencies, to address all sources of pollution and leave no stone unturned. The state agencies develop the plan, but the legislature sets the bar by requiring a visionary and urgent pollution reduction requirement and gives state agencies the mandate and authority to comply. A flexible, comprehensive approach will be guided by the most cost effective and beneficial solutions at our state's disposal.

A comprehensive plan is necessary to achieve the reduction, as global warming pollution in New Jersey comes from many varied sources. Half of New Jersey's global warming pollution, 52 percent, comes from transportation, primarily cars and trucks. 16 percent of our pollution comes from in-state power plants that generate electricity. We also import 20 to 30 percent of our total electricity use from out of state, including dirty coal-fired power plants in Pennsylvania. 21 percent of our pollution comes from residential and commercial use, primarily heating, and another 11 percent of our pollution comes from industrial facilities. While global warming pollution from heating has stayed relatively constant and industrial facilities has declined in recent years, the two largest sources of pollution, transportation and electricity, are projected to grow significantly.

Q: Fuel efficiency technology is too expensive and can't be deployed on a large-scale

A: There is clear evidence that the technology is available to achieve a 40 miles per gallon standard within the next 10 years. Currently, there are already 13 hybrid gas-electric vehicles on the market, including 5 SUVs and one pick up truck. Another 9 hybrids are expected to come on the market within the next 2 years and another 16 models are in the works. The technology is rapidly developing; plug-in hybrids to renewable electricity sources are a real option, in fact Toyota Prius models that have been converted to plug-in hybrids have achieved 100 miles per gallon.

Americans are also aching for more fuel efficient cars. According to a recently released public opinion survey by the Civil Society Institute, there is a potential market of at least 2.5 million U.S. consumers for the introduction of the more than 100 highly fuel efficient cars now being sold overseas but not in this country. The survey also found that four out of five Americans say they would support "Congress taking the lead to achieve the highest possible fuel efficiency as quickly as possible" by raising fuel economy standards to 40 miles per gallon.

Q: New Jersey can't regulate fuel economy

A: While New Jersey is pre-empted by the federal government from raising fuel economy standards, we can improve fuel efficiency through a variety of state policies. New Jersey has already started to improve fuel efficiency through the Clean Cars Program. The program, passed by the legislature in 2004, requires an increasing percentage of zero-emissions and low-emissions vehicles to be sold in New Jersey. Adopted in 13 states across the country, the Clean Cars Program is a great head start to reduce global warming pollution from cars and trucks.

Using the same type of multi-tiered approach we have used to cut pollution from electricity, we can build on the Clean Cars Program to promote fuel efficiency even more. One way to do that is to establish a statewide cost-neutral "feebate" program to help drive the rapidly growing market for fuel efficient cars. This "feebate" program would charge disincentives, or fees, to purchasers

of the worst gas guzzlers and use the money generated from those fees to provide incentives, or rebates, to purchasers of the most fuel efficient vehicles. Another option for New Jersey is to ensure existing car-owners have the option of purchasing low rolling resistance tires that improve fuel efficiency.

Q: New Jerseyans depend on driving

A: We can take big steps to ensure we stabilize the amount of driving in our state, especially if we address commutes to work. After all, nearly 75 percent of New Jerseyans drive to work alone. We can tackle this by providing incentives for ride reduction programs such as carpooling, shuttle service to transit stations and telecommuting and offering pay-as-you-drive auto insurance. We can also change development patterns to focus on transit villages and ensure mass transit is affordable and accessible.

Q: Clean coal technology will solve this problem

A: There is no such thing as "clean coal". The vast majority of proposed coal-fired power plants are conventional pulverized coal plants, which emits massive amounts of carbon dioxide, the leading greenhouse gas. Coal-fired power plants increase global warming pollution at a time when dramatic cuts in pollution are urgently needed. These plants also make it even more difficult for New Jersey's 13 counties to comply with federal air pollution standards. In addition to carbon dioxide, coal-fired power plants emit sulfur dioxide, fine particle pollution linked to premature death, respiratory and cardiovascular disease, nitrogen oxide, a smog-forming pollutant linked to asthma, and mercury, a neurotoxin that causes birth defects.

The level of added coal-fired electric generating capacity now proposed has not been seen occurring since the 1960s and 1970s. There have been no new coal plants built in New Jersey since 1994, and nationwide, the amount of new coal generation has been declining steeply since 1980, until now. Across the country, 150 new coal-fired power plants have been proposed, including several plants in Pennsylvania and one in West Deptford, New Jersey proposed by LS Power. New Jersey regulators are also considering allowing a currently shut down coal plant in Cape May County to be re-powered and expanded, once it is sold. (The BL England Plant, now owned by Atlantic City Electric Company, is up for sale.)

Coal-fired plants will consume investments that could be otherwise spent on energy efficiency and renewable technology. LS Power's proposal for a coal plant in West Deptford will cost $1 billion just to build. Alternatively, New Jersey's $472 million investment in energy efficiency from 2005-2008 will save consumers $2 billion over the life of the program. If we doubled our spending on New Jersey's energy efficiency programs, we could save consumers in the state as much as $1.4 billion more.

Gasified coal, or IGCC (Integrated Gasification Combined Cycle), with carbon sequestration is an immature technology. Carbon capture and storage would require vast expansion of carbon transportation infrastructure and identification of storage units with huge capacity. The U.S DOE estimates that storing all U.S. power plant coal emissions would require enough infrastructure to liquefy, transport and inject roughly 2 billion metric tons of carbon dioxide annually. According to EPRI, there are currently 21 demonstrations around the world and not one of them is large enough to store the lifetime emissions of even one power plant.

IGCC with carbon storage is also demonstrated to be the least-cost way to reduce global warming emissions consistent with climate-stabilization goals in comparison to renewable energy and

energy efficiency. A December 2005 study by the MIT Joint Program on the Science and Policy of Global Change estimated that adding carbon capture technology and disposing of the carbon in geological formations would increase the plant's levelized cost by nearly $30/MWH or 74 percent.

Q: Nuclear power will solve this problem

A: Nuclear power plants pose safety, security and environmental problems. There are no safe or secure storage options for nuclear waste and as nuclear plants deteriorate with age, they become even more susceptible to a catastrophic accident. This is clearly the case with the Oyster Creek nuclear plant on the Jersey Shore -- the oldest operating nuclear power plant in the country. Nuclear power plants also use cooling systems that devastates the ecosystem of local waterways by taking and discharging billions of gallons of water and associated aquatic life every day.

While the federal Nuclear Regulatory Commission is approving 20-year license extensions for nuclear plants across the country, these plants should be phased out over time. We can meet our future electricity needs and reduce global warming pollution without increasing our reliance on nuclear energy. For example, a 2004 study by Synapse Energy Economics found that the U.S. could reduce carbon dioxide emissions from electricity generation by more than 47 percent by 2025 and meet projected electricity demand while saving consumers $36 billion annually. In fact, it is possible to do this while cutting our reliance on nuclear power in half. By moving forward with and maximizing clean energy and energy efficiency technologies, New Jersey can retire the state's current nuclear plants at the end of their current operating licenses and reduce global warming pollution to necessary levels at the same time.

Even if the safety, environmental and security problems associated with nuclear power did not exist, nuclear power would still not be a viable option to solving global warming. According to reports from MIT and the Institute for Energy and Environmental Research, between 1,000 and 2,000 new nuclear plants would have to be built around the world by mid-century just achieve a noticeable reduction in the expected *increase* in carbon dioxide emissions. Given the long construction time (minimum of 10 years) and tremendous expense of nuclear plants (Since 1948, the nuclear power industry has received tens of billions of dollars in federal subsidies but remains unable to compete economically on its own), building this many reactors is simply unfeasible.

ADDITIONAL APPENDIX MATERIALS
SUBMITTED TO THE

ASSEMBLY ENVIRONMENT AND SOLID WASTE COMMITTEE
for the
FEBRUARY 26, 2007 MEETING

Submitted by Suzanne Leta Liou, Global Warming and Clean Energy Advocate, Environment New Jersey:
"A Blueprint for Action: Policy Options to Reduce New Jersey's Contribution to Global Warming," Executive Summary, Environmental New Jersey Research & Policy Center, 2006.