

**New Jersey Senate Environment Committee
Climate Change Hearing
April 17, 2007**

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Good afternoon, Mr. Chairman and members of the Senate Environment Committee, I am Rick Thigpen, Vice President of State Government Affairs with Public Service Enterprise Group (PSEG), parent company of New Jersey's largest electric and natural gas utility. I am here today with my colleague, Don McCloskey, Director of Environmental Strategy and Policy. We appreciate the opportunity to provide comment on this important issue.

On March 29, 2007, Ralph Izzo, PSEG's Chairman and Chief Executive Officer, testified before the United States Congress calling on our federal government to take immediate and aggressive action to address the threat of climate change, including enactment of a mandatory program to regulate electric sector global warming emissions. Back in 2002, when we aggressively started our effort to promote a federal climate change bill, we were one of only a handful of companies pressing our case, knocking on doors in Washington. There are now dozens of leading companies and elected officials calling for federal action, and we firmly believe that it will only be a matter of time before the federal government acts on this issue.

We are proud to be a major industry in the great state of New Jersey who has taken a leadership role to emphasize the importance of climate change for a state that has over 130 miles of Atlantic coastline and 1,792 miles of shoreline at risk to climate change. In New Jersey, PSEG has been an active participant in the development of the state's Energy Master Plan (EMP). Governor Corzine's directive establishing the goals of reducing energy consumption 20% and supplying 20% of the state's electricity needs with renewable resources by the year 2020 presents an enormous challenge. At the same time, however, the imperative for pursuing these goals could not be greater, as we seek to respond to the threat of climate change, concerns about increasing energy costs, and the security and reliability of energy supplies.

The plan's energy efficiency and renewable goals will require a fundamental change in how we think about energy and how we invest in electric infrastructure. It will also require that we redefine the role of the state's utilities and energy companies.

To put it in context: The state's energy efficiency and renewable energy goals are equivalent to the total amount of electric energy consumption in the states of Connecticut and Rhode Island combined.

Clearly this is a big challenge. But I am convinced that this is a challenge that we can meet and we can achieve the goal without undue economic hardship to the state, industry or job loss. We have to be careful in crafting our plan forward and the key is a robust dialog such as this hearing and we thank you for the opportunity.

Again, the Energy Master Plan requires a fundamental shift in the way we think about energy, how we invest in our infrastructure and it will require that we redefine the role of the state's utilities and energy companies.

New Jersey's electric and gas utilities have responded to the challenge by submitting more than 20 innovative strategies that actively involve these utilities in developing and investing in energy efficiency, demand side management, advanced metering infrastructure, renewable resources, distributed generation and innovative ratemaking options. A number of these strategies have broad support within our community, some do not, but they represent a good start toward providing policymakers with new ideas about how we might meet this challenge.

I would like to highlight five key points before turning the discussion over to Don.

First, PSEG has been a leader in climate change policy for the past decade by:

- Being the first utility in the country to sign onto a pre-Kyoto voluntary Greenhouse Gas (GHG) emission reduction accord with the Clinton Administration to stabilize its GHG emissions at 1990 levels by 2000. We accomplished this.
- Building on the progress of our earlier commitments, we volunteered to reduce our GHG emission rate by 18% by 2008 from 2000 levels. We are on track to meet this target as well.
- Being a leading industry advocate for mandatory and meaningful GHG emission reductions on a national basis. We have supported national legislation that would reduce electric power sector emissions to 1990 levels by 2030.

Second, we support New Jersey's efforts to stabilize its greenhouse gas emissions at historic 1990 levels, but we must be careful to moderate the impacts on the economy.

- Reducing New Jersey's GHG emissions to 1990 levels by 2020 equates to about a 10% reduction from today's level and a 25% reduction from Business as usual.¹
- A recent CO₂ global abatement study by McKinsey and Associates indicate to make a 25% reduction will result in cost of between \$15 and \$30 per ton of CO₂

¹ The current New Jersey greenhouse gas emissions across the entire economy expressed in terms of their CO₂ equivalent are about 150 million metric tons per year. By 2020, assuming a business as usual growth rate consistent to the rest of the country, the NJ economy's greenhouse gas emissions are expected to be about 180 million tons. In 1990, according to NJDEP's Division of Research, Science and Technology NJ greenhouse gas emission levels were 135 million metric tons per year.

reduced. If one assumes that to achieve this change in a manner that ramps up gradually to the 2020 target, then over the next 13 years this calculus suggests that the legislation contemplated has an overall price tag of around \$3 to \$6 billion to New Jersey's citizens over that time period.

- If New Jersey's citizens are required to spend this amount without surrounding states implementing similar programs, it goes without saying this could have a significant impact on this state's economy. Again, we have to be careful.

Third, we believe there are things that New Jersey and the electric and gas utility community can do to address the issue, that do not put New Jersey at an economic disadvantage. I am referring to the twenty or so ideas that the electric and gas utilities submitted in the EMP process; ideas like:

- Installing an advanced metering infrastructure so customers see prices in real-time, reduce demand based on price and better control their energy usage and costs;
- Providing incentives for the use of energy efficient devices;
- Providing incentives for the use of renewable resources; and
- Since the transportation sector is responsible for more than half of CO₂ emissions, hybrid and especially, plug-in hybrid vehicles, should be considered for incentives also.
- But also, providing incentives for new nuclear electric generation, which does not emit any CO₂.

Fourth, GHG emissions need to be regulated at a national level. Global warming, as the name suggests, is a “**Global**” issue. Any New Jersey or regional program, including the Regional Greenhouse Gas initiative (RGGI), which places more stringent State or regional emission limits on CO₂:

- Will result in increased utilization of out-of-state power plants, which in turn will increase GHG emissions.
- Will put New Jersey's energy companies and our workforces at a competitive disadvantage with energy companies from other states, thereby hurting New Jersey's economy.
- New Jersey power plants generate approximately 23 million metric tons of carbon dioxide each year. This represents only 15% of the state's total GHG emissions.² Nationally, power plants account for nearly 40% of total CO₂ emissions and around 30% of total greenhouse gases. Our in-state sources are considerably cleaner than the national average, but New Jersey imports a significant amount of electric power from out of state generators, about 25% – upwind generators -- mostly fossil fueled, many not as clean as New Jersey's electric generating fleet.

Fifth, energy and the environment are inextricably linked. New Jersey needs an integrated approach and PSEG stands ready to work with NJ policymakers to develop the infrastructure that enables energy efficiency as the first choice for consumers and businesses, that implements renewable supplies for customers who will benefit the most,

² Assuming New Jersey's total greenhouse gas emissions are approximately 150 million tons/year.

and that ensures a long-term foundation of reliable, carbon-friendly, central station power. There are a number of options at your disposal to shape an integrated approach and develop programs that will provide environmental benefits by reducing greenhouse gases. We have concerns with efforts to cap power plant emissions at the regional level, and believe strongly that a national program must be the priority.

With that overview, I will now hand it over to Don McCloskey to provide more detail on our company's response to climate change.

As Rick mentioned in his introduction, energy and the environment are inextricably linked. In our view, the state's utilities are uniquely positioned to invest in technologies that would enable and empower consumers to achieve efficiency gains on a large scale. As part of the energy master plan process, PSEG has made several specific proposals. In total, our concepts represent nearly half of the EMP electricity goal and two-thirds of the heating goal.

The electric power sector contributes a significant share of the air emissions associated with local, regional and global environmental concerns, and PSEG has taken a leadership role in educating the public and policymakers about this contribution, supporting policies to address electric sector emissions and reducing our carbon intensity. PSEG has implemented a significant number of voluntary reductions beginning as far back as 1990, including repowering, converting from coal to natural gas combined cycle operations, improved nuclear plant performance and technological upgrades, investing more than \$3 billion in our fossil fleet in New Jersey and elsewhere.

Over the years, PSEG has worked in collaboration with a number of environmental organizations to bring attention to the contributions of the electric power sector to air pollution and U.S. GHG emissions. Working with CERES—the Coalition for Environmentally Responsible Economies—and the Natural Resources Defense Council, PSEG has developed a comprehensive report on power plant air emissions. The 2006 edition was the fifth such report, highlighting the environmental performance of power companies throughout the U.S. The latest report highlights that the electric power sector contributes 40% of total U.S. CO₂ emissions, that CO₂ emissions from this sector are growing, and that 7 utility companies account for nearly 25% of the overall emissions. PSEG's U.S. generating fleet makes PSEG the 19th largest producer of electric power in the U.S., but 84th in terms of the quantity of emissions generated per unit of energy produced. Copies of the report are available at the Natural Resources Defense Council's website – nrdc.org – and I have brought a copy for members of the committee.

PSEG has long advocated the adoption of regional and national programs to address power plant air emissions. PSEG continues to support national legislation to address NO_x, SO₂, and mercury emissions from power plants, including near-term significant reductions in power plant CO₂ emissions to address global climate change.

But recognizing that state policy is moving ahead in advance of federal action, what does PSEG advocate for New Jersey?

PSEG believes New Jersey's utilities are uniquely positioned to invest in technologies, such as advanced metering infrastructure, that would enable and empower customers to achieve efficiency gains on a large scale, which, in turn, would help improve air quality. This technology would enable customers to interact with energy suppliers in real time and take advantage of new pricing and energy management services. This kind of technology investment would be a logical extension of a pilot program we now have under way called "MyPower Connection." MyPower automatically adjusts central air conditioning units in response to electricity price changes and provides customers access to time-of-use pricing plans and additional information on how to manage energy consumption.

We also think utilities should be involved in financing efficient equipment on the customer side of the meter. Utilities have the brand recognition and relationships with customers to successfully implement energy saving programs and technologies. And perhaps more important, utilities have the ability to deploy "patient capital." By this I mean the ability to make long-term investments that serve the public interest, as long as there are assurances of earning reasonable returns on these investments. This will require implementing innovative ratemaking policies that would support our ability to commit capital to these kinds of initiatives. This will maximize the penetration of efficiency and conservation measures across all customer classes.

We think this formula applies to investments in renewable resources, such as large scale solar installations as well.

We've developed a strategy that will facilitate large-scale solar photovoltaic installations. We continue to vet this idea with various constituencies and we believe this program has the potential to develop significant amounts of solar power by 2020. Rate treatment of large scale renewables benefits all customer segments not just upper and upper middle class homeowners who can afford it. However, I must be candid in that these technologies will cost considerably more than other supply options for the foreseeable future.

On the transportation side, hybrid electric vehicles and plug-in hybrids offer the ability decrease fuel use and air emissions associated with publicly and privately owned fleets. PSEG is currently participating with the Electric Power Research Institute on a project evaluating the potential for plug-in hybrid vehicles in our electric and gas delivery business. Current hybrids can reduce fuel consumption by 30%. Plug-ins have the potential to achieve a 50% reduction.

An integrated approach should favor efficiency and renewables but these resources will not be enough. There is no silver bullet when it comes to addressing climate change. It will take many diverse actions from increased investment in energy efficiency and energy saving technologies, as well as increased investments in renewable energy, distributed energy, zero- and low- carbon emitting conventional generation technologies including nuclear power and Integrated Gasification Combined Cycle (IGCC) technologies with

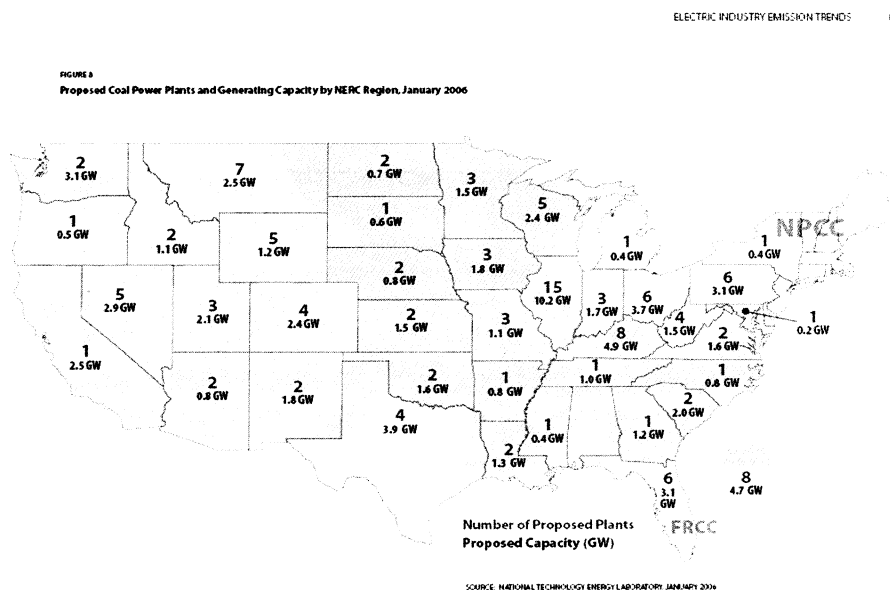
carbon capture and storage, to cars that are able to get many more miles per gallon than current designs such as plug-in electric hybrids, to preventing deforestation, to planting new forests, to decarbonized fuels, to new building and appliance standards, and the list goes on.

We urge policymakers to carefully consider the areas where they can have the greatest impact. Clearly, as it relates to energy markets, New Jersey policymakers can influence retail energy consumers through education, conservation and energy efficiency initiatives that will reduce consumption and thereby reduce greenhouse gas emissions.

As the committee is aware, New Jersey is a full participant in the Regional Greenhouse Gas Initiative (RGGI). PSEG has been supportive of RGGI in concept as we understood its original intent: to encourage federal action.

The total carbon dioxide (CO₂) allowance budget for all RGGI states will be approximately 184 million tons. New Jersey's share is about 23 million tons. Within that context, please consider the following illustrations:

Illustration #1



As of January 2006, 132 new coal-fired power plants had been planned in the United States. Forty-seven of these plants are located in states that are wholly or partly within the PJM area. One was planned for the RGGI region. The Energy Information Administration (EIA) estimates that by the year 2030, electricity produced from coal in the United States will increase by two-thirds over 2004 levels – 1.3 billion MWh – more than 16 times New Jersey's current annual electric consumption. EIA projects that CO₂ emissions will increase by 1.1 billion tons annually as a result of this increase in coal-based electricity production. That's 6 times larger than the 2009 RGGI states' budget. Put another way, it would require shutting down every affected carbon source in the RGGI region for six years to offset one year's carbon impact from these planned coal

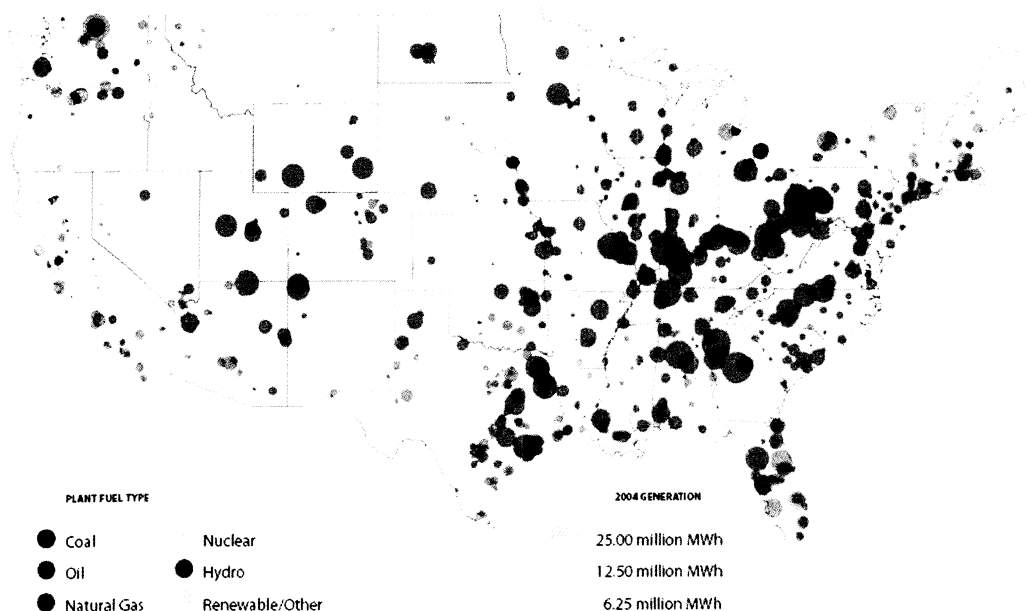
units. New Jersey can't do it alone. RGGI can't do it alone. We need a national program.

There are over 5,000 power plants in the United States.

Illustration #2

FIGURE 2

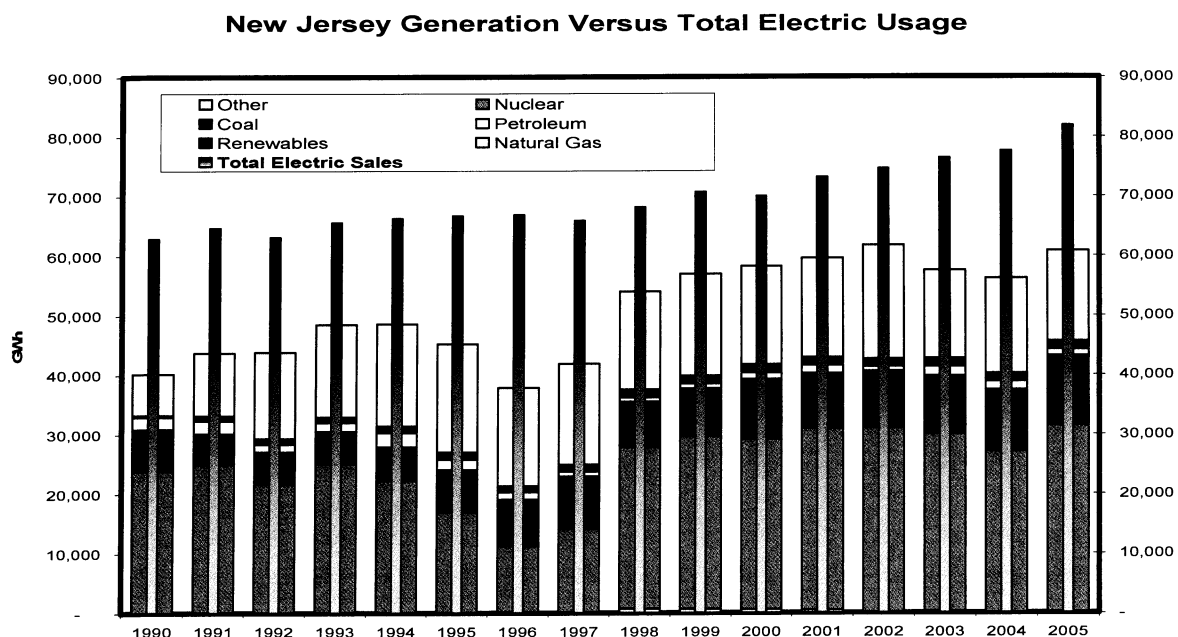
Location and Relative Size of U.S. Power Plants by Fuel Type



Seventy percent of the electric power produced in the United States in 2004 was produced by fossil fuels. Coal accounted for half of the total power production – nuclear 20%, natural gas 18% and oil 3%, hydro nearly 7% and renewables and other almost 3%.

Between 1990 and 2005, New Jersey imported between 17% and 36% of its electric power needs. For comparison purposes, in 2005, New Jersey's energy production was 38% nuclear, 14% coal, 19% natural gas, about 1% oil, approximately 2% renewables (Class II) and other. Twenty six percent of our needs were imported and that is a combination of sources, but mostly from fossil fuels from states' upwind of New Jersey.

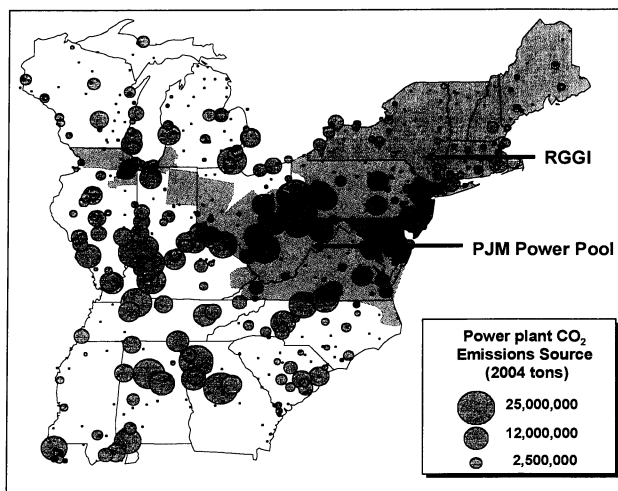
Illustration #3



Modeling done by RGGI staff indicate that the level of imports will rise and under certain assumptions could result in significant decline in New Jersey generation with a commensurate increase in generation to our west. The result is leakage, increased emissions outside of our borders because of the increased operating costs imposed by RGGI on New Jersey power plants. New Jersey, along with Delaware and Maryland (also RGGI States) are on the eastern edge of PJM. None of the other nine PJM states plus Washington, D.C. is in the RGGI region. The balance of the RGGI states are all within the same power pools; New York in one and all the New England states in another.

PJM electricity market connects New Jersey to Midwest coal plants

- PJM coordinates the movement of electricity across a broad region that includes a part of the RGGI region
- Participation in PJM makes NJ more susceptible to leakage than other RGGI states and reduces the ability of affected sources to recoup CO₂ costs through electricity prices.



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It should be clear to New Jersey policymakers that a resolution to leakage must be defined before going forward with RGGI and a commitment should be made to harmonize and sunset RGGI requirements into a mandatory national program.

In addition to leakage another issue at the center of the RGGI dialog is consideration of a 100% open auction of allowances. We strongly recommend that allowances should only be made available to regulated sources and any consideration of moving toward a 100% auction should be done very slowly.

PSEG has been involved in the development and implementation of national and regional cap and trade programs for NO_x, SO₂ and CO₂. An important lesson that I would offer from our experience with existing cap-and-trade programs and an issue that policymakers should understand is: who bears the costs under a cap-and-trade system? Power plant operators will seek to recover their CO₂ compliance costs when they bid into the wholesale electric energy markets. Depending upon the structure of the electricity markets and the fuel mix of generation serving those markets, some portion of these costs will be recovered by generators in the form of higher wholesale electricity prices that ultimately impact electricity consumers.

Because electricity consumers ultimately bear these costs, you can argue that consumers should be entitled to a portion of the emission allowances – really the value inherent in the allowances. Auctioning the allowances and returning the proceeds to consumers in the form of rebates, energy efficiency credits, or reduced taxes can accomplish this. Economists also generally agree that the auction approach is the most efficient and transparent method for distributing allowances.

However, while economic theory may suggest this course, PSEG believes that as a matter of public policy, existing coal-fired power plants must continue to be an important energy resource in the U.S. Therefore, we think it makes sense to limit the auction of allowances in the early years of the program and certainly in the RGGI experiment.

As a case in point, PSEG is currently evaluating whether to make an investment of approximately \$600 million on a 600 MW coal plant in New Jersey for selective catalytic reduction (SCR) for NOx control, and a scrubber and baghouse for SO2, particulate, and mercury control. The Northeast as you know is moving forward with implementation of a regional greenhouse gas cap-and-trade program. A number of states in the Northeast have been considering adopting a 100% auction system when the program is implemented in 2009. For this particular investment, given our assumptions about forward prices associated with natural gas, energy markets, and CO2 allowances, for every 10% auction of allowances, this plant loses about \$15 million of Net Present Value (NPV). Therefore, a 100% auction makes this investment a very questionable decision and one that will have a direct bearing on whether we continue to operate this facility. The closure of this station would not improve air quality in NJ nor will it help in our effort to address global warming.

This potentially impacts reliability and prices and without a viable mechanism to address leakage, replacement power will likely come from fossil generation at upwind PJM and Midwest plants. Many of those plants burn coal. To us that doesn't make sense. We need to be assured that the price paid for leadership on climate issues does not translate into an economic incentive for upwind states that penalizes New Jersey's economy by increasing the cost on energy thereby deterring businesses from locating in New Jersey, negatively impacting operating jobs at New Jersey power facilities and negating construction jobs associated with upgrades at New Jersey power stations.

Moving too quickly to a full auction system may also create problems for facilities with contract obligations that would prevent them from recouping auction costs until their contracts could be renegotiated.

These economic realities suggest that we are best served by transitioning to a full auction process over a long period of time. PSEG supports auctioning some part of the 25% of the allowances set aside in the Memorandum of Understanding that New Jersey was signatory to and making them available to regulated sources in the auction or at some defined cost necessary to meet the commitment expectations of the energy efficiency fund.

As I explained earlier, there are a number of ways utilities can help with the first two components of an integrated strategy. But there are no silver bullets.

PSEG strongly believes an essential task for our company, the energy industry, and state policymakers is to maintain the reliability of our electric system. This will require developing new baseload electric generating capacity in New Jersey. There are, however, some major issues to be considered.

While there are a number of pilot projects under way and the U.S. Department of Energy is evaluating carbon capture and storage technologies, there currently is no commercially available technology to control carbon emissions from conventional fossil-fueled power plants.

New clean coal technologies such as integrated gasification-combined cycle (IGCC) are still on the cusp of commercial and technical viability. And developing this technology in the context of the current structure of wholesale markets presents very significant risks for merchant energy suppliers.

Nuclear power is a proven, emissions-free electric generation technology that is available. But nuclear power has its own set of risks: siting issues, the unresolved issue of spent fuel storage, and an exceptionally long licensing and construction timeframe. Despite these risks, nuclear power is the most realistic option for electricity production without adverse CO2 effects and we need to address these uncertainties.

Any plan for a carbon-constrained future must include the benefits of nuclear power.

PSEG stands ready to work with New Jersey policymakers to develop the infrastructure that enables energy efficiency as the first choice for consumers and businesses, that implements renewable supplies for customers who will benefit the most, and that ensures a long-term foundation of reliable, efficient, central station power.

Thank you for your time and for the opportunity to provide these remarks.

Exhibits for Testimony Regarding Climate Change

**Before the
Senate Environment Committee
for the
Independent Energy Producers of New Jersey**

April 17, 2007

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Independent Energy Producers of New Jersey

- Represents power generation industry in New Jersey.
- Membership owns 80% of the generation in New Jersey.
- Advocate in legislature, executive branch, BPU and DEP for competitive wholesale generation market and environmental quality.
- Founded in 1992 from the independent cogeneration industry. Members have renegotiated utility contracts and saved over \$435 million for New Jersey ratepayers.

New Jersey Reliability Issues

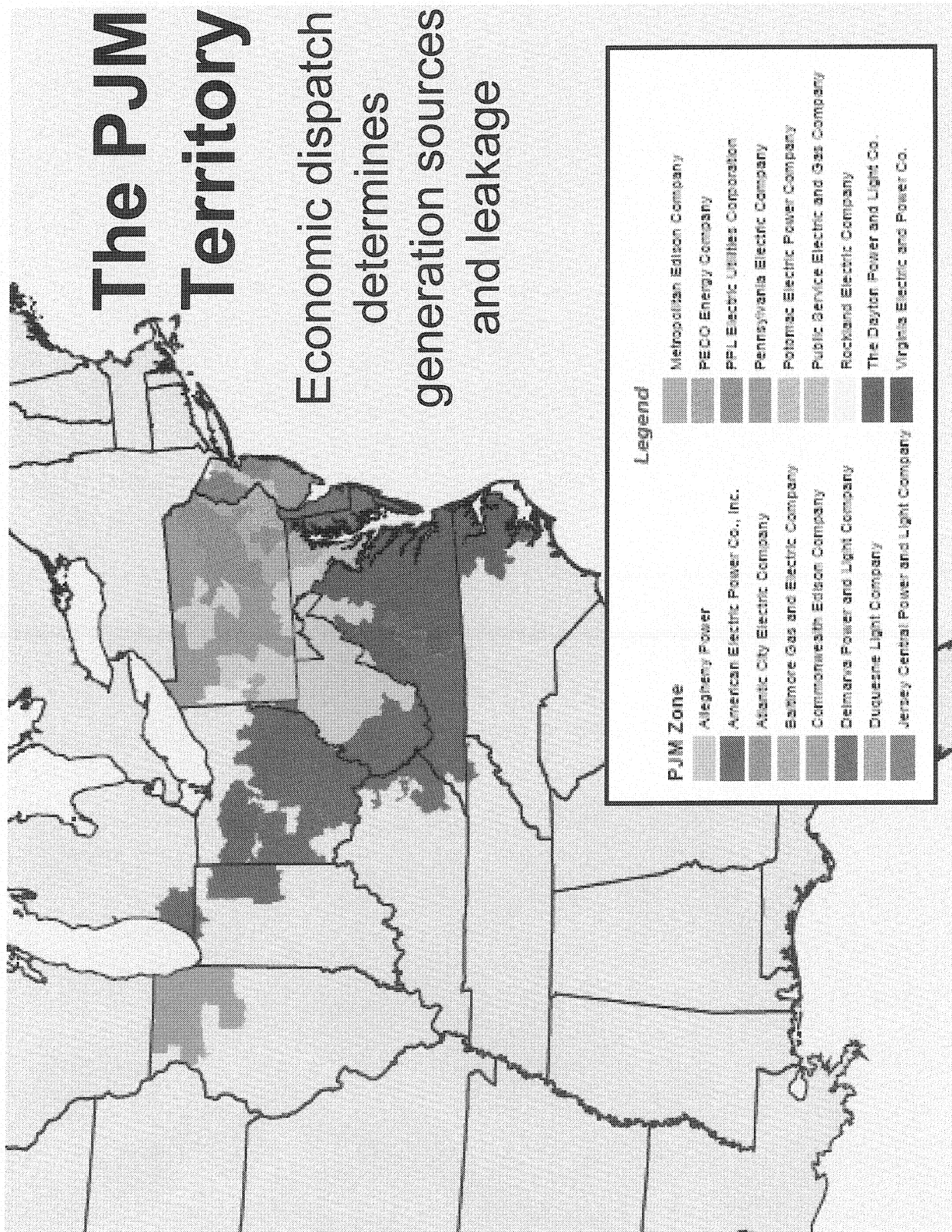
- Annual demand growth of approximately 350 MW per year.
- Retirements of 1303 MW since 2003
- New renewable and demand side management contributed 83 MW in 2005.
- PJM, FERC, and NERC have reliability concerns that are specific to New Jersey.

Reported New Jersey Electric Reliability Concerns

- **PJM:**
 - Regional Transmission Expansion Plan
- **Federal Energy Regulatory Commission (FERC):**
 - Conditional Approval of PJM Reliability Pricing Settlement
- **North American Electric Reliability Council (NERC):**
 - 2006 Long Term Reliability Assessment (through 2015)

Project Development for New Capacity in New Jersey

- No new plant air permit requests made at the DEP for the last two years
- New capacity pricing model at PJM may encourage development
- 4,162 MW under review at PJM for development in New Jersey/economics unclear at this time



The PJM Territory

Economic dispatch
determines
generation sources
and leakage

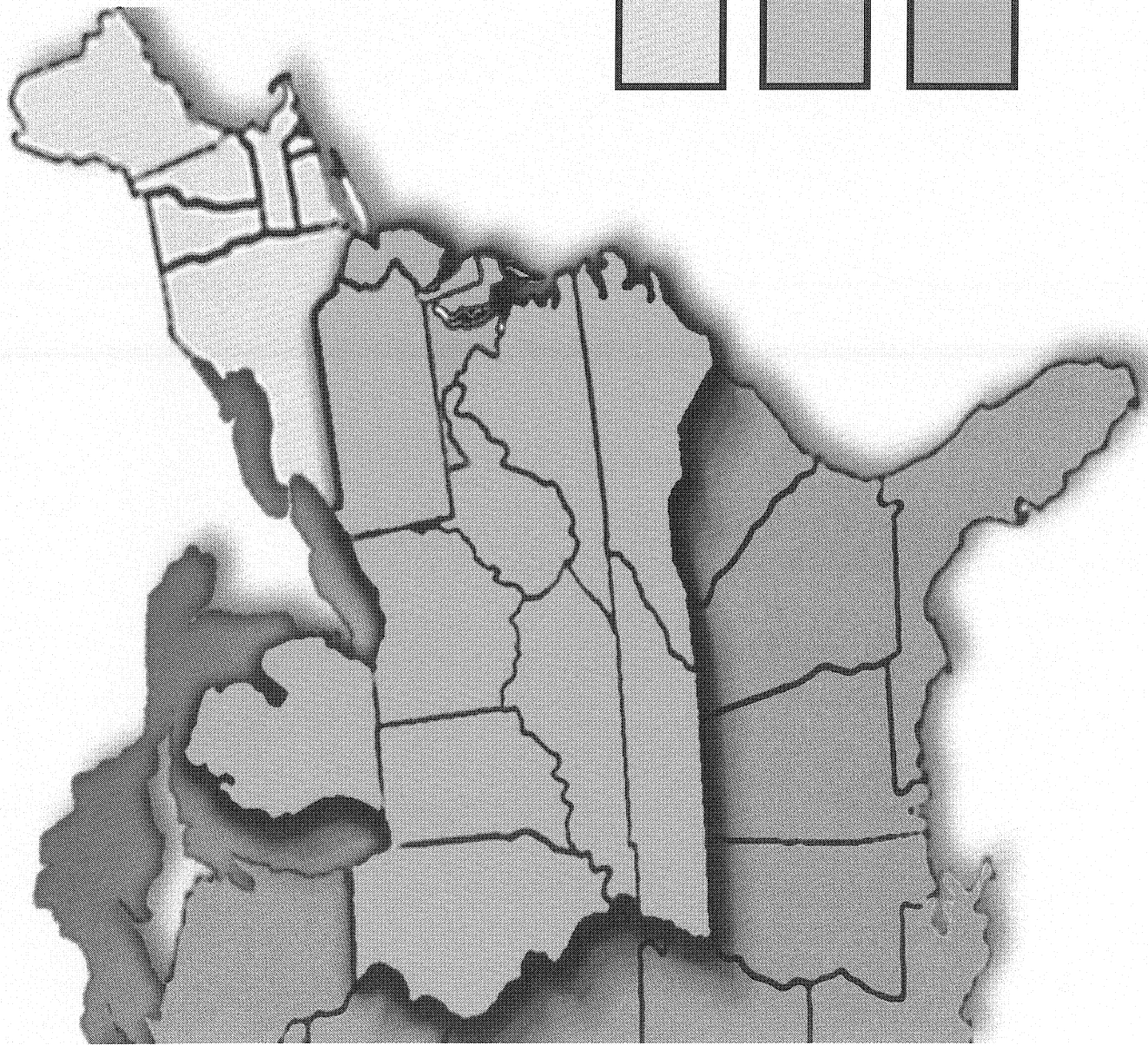
PJM Zone

- Allegheny Power
- American Electric Power Co., Inc.
- Atlantic City Electric Company
- Baltimore Gas and Electric Company
- Commonwealth Edison Company
- Delmarva Power and Light Company
- Duquesne Light Company
- Jersey Central Power and Light Company

Legend

- Metropolitan Edison Company
- PECO Energy Company
- PPL Electric Utilities Corporation
- Pennsylvania Electric Company
- Potomac Electric Power Company
- Public Service Electric and Gas Company
- Rockland Electric Company
- The Dayton Power and Light Co.
- Virginia Electric and Power Co.

PJM and Regional Greenhouse Gas Initiative (RGGI) States

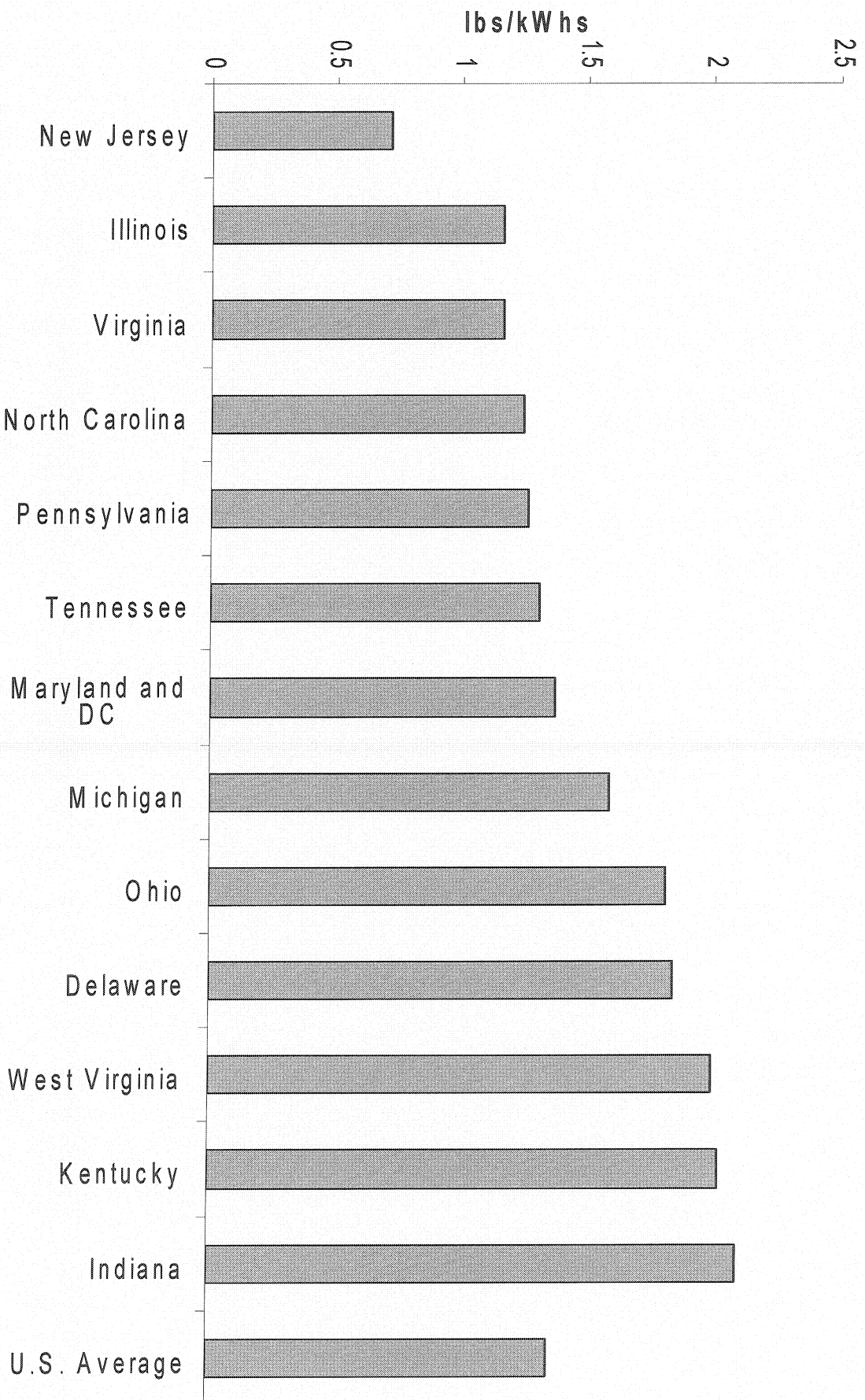


RGGI Members

PJM States

PJM States Which Are
Also RGGI Members

PJM States and U.S. Average CO2 Emission Rates, 2002



Source: Energy Information Administration, Updated State-and Regional-level Greenhouse Gas Emission Factors for Electricity

Major East to West Transmission Projects Being Proposed into New Jersey

- American Electric Power :
Amos, West Virginia to Deans, New Jersey
2014, \$3B
- PEPCO Holdings Inc.:
Possum Point, Virginia to Salem, New Jersey
2014, \$1.2B

Leakage

- Regional Greenhouse Gas Initiative (RGGI) is a cooperative effort by New England states, NY, DE, MD and NJ to cap and reduce carbon dioxide emissions
- NJ, MD, and DE generation will have to comply with RGGI while 10 other PJM states will not
- Since New England states and NY are in their own power pools, they will not experience leakage to the same degree
- PJM's economic dispatch will increase generation from non-RGGI states

Leakage Cont'd

- Competitive disadvantage for NJ generation which, on average, is cleaner than other PJM generation.
- Higher prices and more out-of-state emissions due to RGGI cost on NJ generation.
- Per the Regulatory Assistance Program (RAP), “it only takes a small shift in purchasing patterns to result in quite large leakage percentages.”

RGGI Process Has Not Resolved Leakage

- Imports and Emissions Leakage Working Group including the NJDEP is studying the problem
- “Do nothing but monitor” is still an option the Working Group is considering
- Leakage should be addressed prior to the program’s launch to assure RGGI achieves reductions

Offsets and Cogeneration

- Greenhouse gas reductions achieved outside of the regulated sector
- Examples of eligible offset projects include landfill gas (methane) capture and combustion, afforestation, and end-use efficiency for natural gas, propane and heating oil
- Cogeneration provides an industrial source of greenhouse gas reductions

RGGI Set Aside

- MOU signed by New Jersey in December 2005 says **25%** of each states' allowances will be allocated and auctioned to fund consumer benefit or strategic (clean) energy purposes
- NJ DEP and BPU have expressed their intent to set-aside 50 to 100% of the allowances and auction them off
- A higher set-aside will only increase leakage and compromise New Jersey's greenhouse gas reduction goals

RGGI Set Aside Cont'd

- Since New England states and NY are in their own power pools, they will not experience leakage to the same degree
- Renewable and energy efficiency funds should be raised through the societal benefits charge (SBC) as legislated, rather than charge NJ generation that is cleaner than other PJM generation.

Recommendations

- 1) NJ should not implement RGGI until it has an effective plan in place to address leakage
- 2) NJ should have a flexible, robust offsets program
- 3) Set aside should be maintained at 25%
- 4) Recognize cogeneration and dispatch owner situations



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**Testimony before the Senate Environment Committee
Urging Passage of the Global Warming Response Act (S2114/A3301)
Suzanne Leta Liou, Global Warming and Clean Energy Advocate
April 17, 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 New Jersey's greenhouse gases to levels scientists say is necessary to avoid the worst effects of global warming. If New Jersey passes this legislation, we will be the second state in the nation, behind California, to pass a comprehensive solution to global warming.

While the California legislation – the Global Warming Solutions Act – directs the California Air Resources Board as the responsible state agency to implement the bill, the New Jersey Global Warming Response Act directs the New Jersey Department of Environmental Protection (DEP), in consultation with other state agencies, including the Board of Public Utilities (BPU) and the Department of Transportation (DOT), to develop rules and programs to achieve the emissions reduction requirements.

The staff and leadership at New Jersey's state agencies, particularly the Department of Environmental Protection and Board of Public Utilities, are incredibly well-suited to carry out this task. Over the years, we have worked closely with both agencies to ensure New Jersey is well-positioned to meet the reduction requirements of this bill and ensure that we receive the immense benefits from being at the vanguard of global warming solutions.

Specifically, we have worked with these agencies to achieve the four key building blocks -- 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.

We are now working closely with the DEP and the BPU to create the Global Warming Action Plan to achieve the emissions reductions targets in Governor Corzine's recently signed Executive Order. We are also working with these agencies to develop the state Energy Master Plan and complete state rules for the Regional Greenhouse Gas Initiative. In fact, the DEP has already enlisted the Center for Climate Strategies, a non-profit team of experts, to assist the state with the Global Warming Action Plan.

We have also closely reviewed and discussed the agencies' suggested amendments to the Global Warming Response Act and are reaching agreement. In fact, we believe several specific suggested amendments, particularly the inclusion of an 80 percent by 2050 reduction requirement, the ability for the BPU to adopt energy efficiency and emissions portfolio standards and the ability for the DEP to assess fees to properly implement the legislation are quite necessary. We look forward to continue our work with experts at New Jersey's state agencies to implement this ground-breaking legislation.

I also want to stress that there are a multitude of strategies to achieve the emissions requirements needed to avoid the worst effects of global warming. 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 and set a vital precedent for national legislation. 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.

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 also 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.



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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

Global warming is the greatest and most urgent environmental issue of our time. For New Jersey, 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 pollution, especially carbon dioxide, the leading greenhouse gas. These policies – the New Jersey Clean Energy Standard, the Regional Greenhouse Gas Initiative, state energy efficiency programs and the Clean Cars Act – have cut our projected global warming pollution growth by more than half. Nonetheless, 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 pollution by 20 percent below current levels by 2020 and 80 percent by 2050.
- We have the solutions available to achieve these reductions by dramatically reducing our energy consumption and shifting to clean, renewable sources of energy. These solutions also protect consumers from rising energy prices and grow our economy by promoting new investment in clean energy technologies.

We are urging all members of the Legislature to co-sponsor and pass the Global Warming Response Act. This ground-breaking bill requires mandatory limits on all global warming pollution from all sources statewide to below 1990 levels by 2020, about a 20 percent reduction below current levels.

If New Jersey passes the Global Warming Response Act, we will be the second state in the nation to adopt a comprehensive solution to global warming. Our state will also set a vital precedent for strong national action.

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

- Within two years 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 the emissions reductions to 1990 levels by 2020.
- The first global warming reduction requirement will take effect in January 1, 2012, and further reductions will 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.
- 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.

Current Assembly Co-Sponsors: Stender (Prime), Vainieri-Huttle, Gusciora, Greenstein, McKeon (Co-Primes), Stack, Watson-Coleman, Cruz-Perez, Prieto, Whelan, Oliver, Vas, Diegnan, Bramnick, Green, Munoz, Payne, Hackett, Panter, Giblin, Bateman, Gordon, Mayer, Epps, Wolfe, Chivikula, Lampitt, Kean, Pou, Holzapfel, Johnson, Baroni, Steele, Connors and Rumpf

Current Senate Co-Sponsors: Buono (Prime), Kean (Co-Prime), Coniglio, Wienberg, Karcher, Ciesla, Sweeney, Vitale and Turner

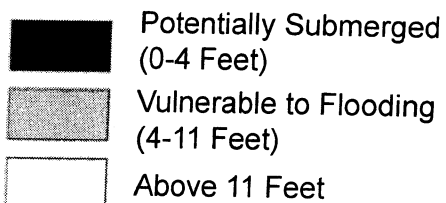
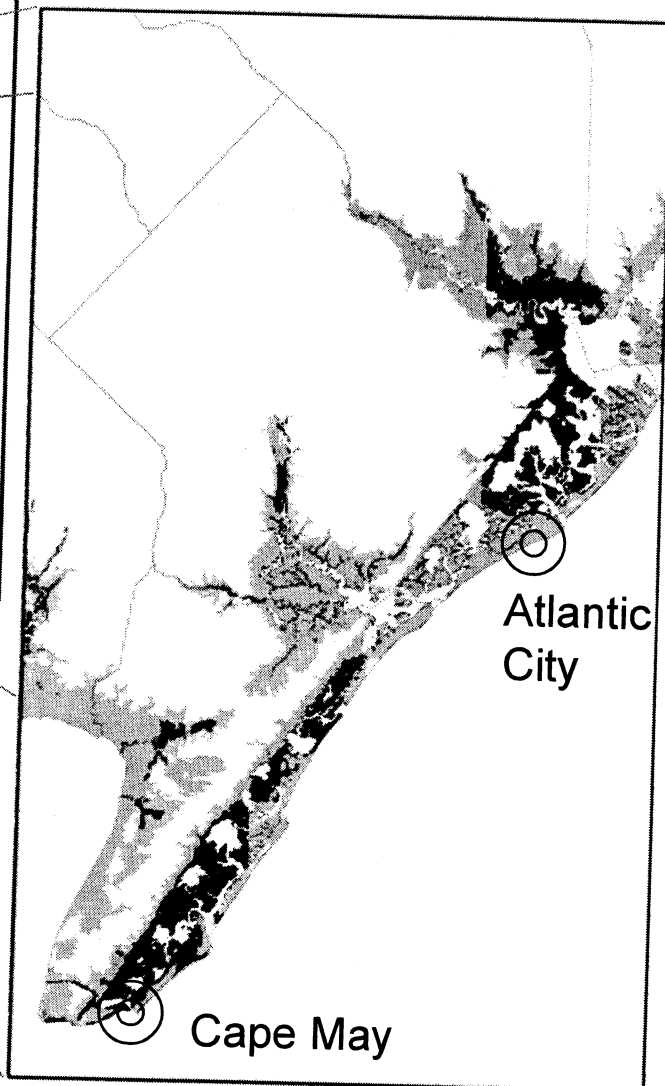
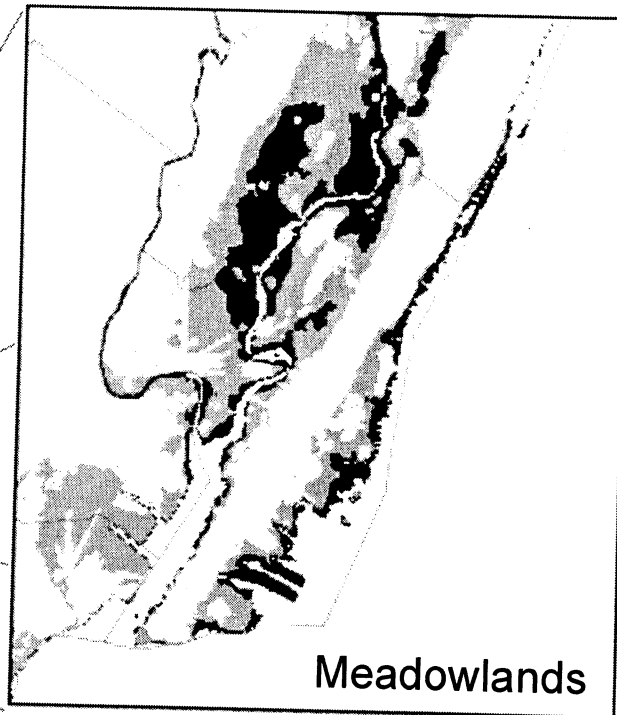
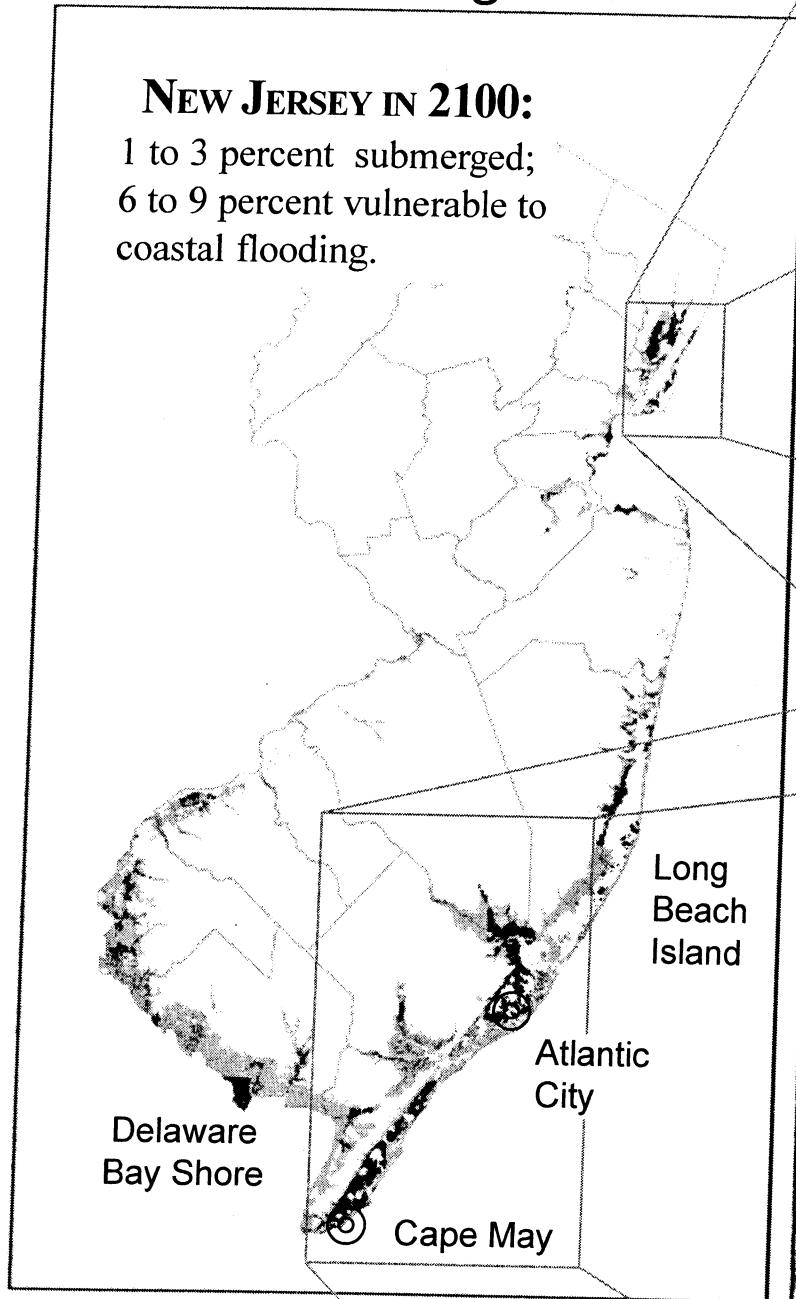
Selection of Organization, Elected Official, Business and Scientist Endorsements:

New Jersey Environmental Federation, Sierra Club New Jersey Chapter, New Jersey Audubon Society, New Jersey Conservation Foundation, Association of New Jersey Environmental Commissioners, Pinelands Preservation Alliance, American Littoral Society, Coalition for Affordable Housing and the Environment, Princeton Students United for a Responsible Environment, Stockton Action Volunteers for the Environment, Earth Policy Institute, GreenFaith, Garden State Network of Spiritual Progressives, South Jersey Secular Jews, New Jersey League of Women Voters, New Jersey Farm Bureau, New Jersey Federation of Sportsmen's Clubs, New Jersey Citizen Action, New Jersey Public Interest Research Group, BlueWave New Jersey, Learning Disabilities Association of New Jersey, Regional Plan Association, New Jersey Green Building Council, New Jersey Higher Education Partnership for Sustainability, Governor Jim Florio, Middlesex County Freeholder Jim Polos, Hamilton Mayor Glen Gilmore, Ringwood Mayor Joanne Atlas, Hopewell Borough Mayor David Nettles, Washington Township Council President Sonja Walter, Spring Lake Heights Council President Richard Gannon, Highland Park Mayor Meryl Frank, Montclair Mayor Ed Remsen, Mid-Atlantic Solar Energy Industries Association, Bluewater Wind, Metro Energy Solutions, Whole Foods Market Northeast, Community Energy, Atlantic County Utilities Authority, Innovative Energy Systems, PowerLight, International Brotherhood of Electrical Workers Local 269, New Jersey AFL-CIO Retirees Committee, Dr. James Hansen (Director and Lead Climate Scientist, National Aeronautics and Space Administration), Dr. Michael Oppenheimer (Department of Geosciences, Woodrow Wilson School, Princeton University), Dr. Alan Robock (Associate Director, Center for Environmental Prediction, Rutgers University), Dr. Stephen Pacala (Acting Director, Princeton University Environmental Institute)

New Jersey's Coastal Treasures at Risk for Flooding

NEW JERSEY IN 2100:

1 to 3 percent submerged;
6 to 9 percent vulnerable to
coastal flooding.



April 17, 2007

GOVERNMENT AFFAIRS TEAM

Melanie Willoughby
Senior Vice President

Sara Bluhm
Assistant Vice President
Energy & Federal Affairs

David Brogan
Vice President
Environmental Policy &
Small Business Issues

Christopher Emigholz
Director
Education Policy

Arthur Maurice
First Vice President
Economic Development &
Taxation

Frank Robinson
Vice President
Grassroots &
Transportation

John Rogers, Esq.
Vice President
Human Resource Issues

Christine Stearns, Esq.
Vice President
Health & Legal Affairs

TO: Members of the Senate Environment Committee

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

RE: Climate Change

On behalf of the 23,600 members of the New Jersey Business & Industry Association, I would like to thank the committee for the opportunity to share the views of the New Jersey business community on climate change.

For the past decade, we have seen a change in the landscape of New Jersey's economy—shifting from a manufacturing sector to a service sector. There is still a great deal of industry in our state, but it has been forced to become lean and green to survive the bureaucracy and competition. Stationary sources have reduced their pollution; in fact New Jersey's commercial and industrial consumers have reduced their CO2 emissions from fossil fuel combustion to below 1990 levels. Environmentally, business has substantially reduced a variety of criteria air pollutants since 1994.

Climate change policy decisions are coming and we understand that. However, these policies need to be environmentally and economically based. NJBIA would prefer the policy to be at national level as to not hurt us competitively with other states. To date, our State has embarked on several policies that do not weigh these cost benefit analysis to achieve the greatest good.

New Jersey has been engaged for the past three years in the Regional Greenhouse Gas Initiative (RGGI), which is a multi-state coordination to curb carbon dioxide emissions. Later this year, the Department of Environmental Protection (DEP) is expected to promulgate rules to implement RGGI in New Jersey to begin curbing our emissions by 2009.

Governor Corzine has also set a goal of updating the State's Energy Master Plan (EMP) by October 2007. For the past several months the business community has been participating in the working groups tasked with 20 percent energy reduction by 2020.

The State's Clean Energy Fund, which has been the main driving force in the State for encouraging renewable energy and energy efficiency projects, has been in effect for several years with misguided policy decisions. NJBIA has been a firm advocate for the allocation of funds to be primarily distributed to the commercial and industrial sector. However, it has been the policy of the

Board of Public Utilities to allocate the majority of energy efficiency funds to the residential sector. Energy efficiency is no different than any other economy of scale—you achieve a bigger bang for your buck when you make a commercial space more efficient than a residential.

The Clean Energy Program budgeted over \$79 million for residential efficiency programs, while only \$39 million was budgeted for commercial and industrial programming. The Clean Energy Program Report for 2006 submitted to the Board of Public Utilities on April 9, 2007 illustrates this point further by demonstrating that more carbon emissions are reduced when supporting electric energy efficiency measures for commercial and industrial programs (67,969 metric tons) versus residential programs (19,032 metric tons).

New Jersey relies on the transportation sector as a major component of our economy. The roads, rails, and ports all contribute to our great eastern seaboard location. It is this network that allows business to have national as well as international development. While stationary sources have been easy to document and require emissions controls over the years because they don't move, it is harder to regulate mobile sources. At the same time, this is when the cost benefit analysis becomes crucial. As we saw in the diesel retrofit debate, curbing emissions can be costly and impact New Jersey-only based companies. It is measures like this that the legislature needs to examine carefully.

Again, NJBIA feels that climate change is best addressed on the national level. This allows for the business community to have a level playing field as opposed to State specific regulations which add to the cost of business. We have been leaders in reducing emissions, but it comes at a cost. New Jersey has added more State employees than private sector employees since 2000. Industrial ratepayers have the fourth highest electric rates in the nation and pay millions of dollars into the societal benefits charge, yet the State chooses to fund residential projects.

We look forward to working with you to find a policy solution that is both environmentally and economically reasonable.

NEW JERSEY PETROLEUM COUNCIL

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J.E. BENTON, Executive Director
J.A. MAXWELL, Associate Director

April 17, 2007

Testimony before the Senate Environment Committee Regarding the impact on Climate Change policy the State of New Jersey

Chairman Smith and Members of the Senate Environment Committee:

On behalf of the New Jersey Petroleum Council and its members, I am pleased to respond to your request for information on the complex issue on Climate Change and the challenge facing this Committee in addressing the issue in a comprehensive, constructive and creative way.

The New Jersey Petroleum Council its member companies consider climate change a very important issue. Even as research and policy debates continue, our member companies, which are competitive and unique, are addressing climate change in diverse ways, including taking actions now to reduce greenhouse gas emissions, and investing in and developing technologies that will reduce them even more in the future.

While we support voluntary, technology-based approaches (which have produced substantial progress towards addressing greenhouse gas emissions), we nonetheless believe that all stakeholders should remain open minded, and that all policies to address climate change should be carefully considered in a public, transparent and informed debate. The Council also supports further public education regarding all aspects of climate change policies, and plans to remain actively engaged with the Committee in discussions of any climate proposals.

We are pleased to take this opportunity to urge this Committee to remain an active participant in the ongoing public policy debate. Simply deferring to the Executive agency of State would not advance an open, transparent dialogue of public participation in shaping this complex policy.

Less than a year ago, this Committee unanimously reported Senate Bill 559, sponsored by Chairman Smith and Senator McNamara, on a bipartisan basis, legislation which would create a Climate Change Commission and report to the Legislature regarding developed recommendations concerning plans for State actions to address Global Climate Change and its impact in the State. While this legislation likely needs additional amendatory language in

recognition of other recent policy initiatives, we believe maintaining the Legislature's role in this policy debate is an essential component to make informed progress on the complex policy issue of Climate Change.

Today, we are pleased to offer specific comments on legislation before the Committee, including Senate 2114, The Global Warming Response Act.

We continue our own efforts to understand the complexities of policy issues on the federal and state levels and will seek constructive avenues for making progress. We are ready to answer any questions you may have regarding this submission and look forward to cooperating with this Committee.

NEW JERSEY PETROLEUM COUNCIL

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April 17, 2007

Senate 2114 The Global Warming Response Act

Chairman Smith and Members of the Senate Environment 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.

While we recognize the overarching policy goals of Senate 2114 -- 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 Senate 2114, 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 gases in the atmosphere and reduce these emissions." However, the legislation makes no mention of specific "solutions" and instead directs the Department of Environmental Protection 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 Senate 2114 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 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 determined 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 gases, 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 Department of Environmental Protection to adopt any rules or regulations necessary to implement the model rules adopted by the 'Regional Greenhouse Gas Initiative' (RGGI). 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. 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 cost of these proposed elements of the bill were recently estimated by our state's largest utility to be in the \$3 to \$6 billion dollar 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) 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 Senate 2114 to further clarify our comments and develop sound solutions through further amendments to this measure.

AES Red Oak

Testimony before the NJ Senate Environment Committee

April 17, 2007

AES Red Oak is an 832 megawatt gas-fired, combined-cycle, power generation plant located in Sayreville, New Jersey. Construction began in March 2000 and commercial operation commenced in September 2002. It is one of the most modern, environmentally efficient facilities in the state. The facility utilizes state-of-the-art environmental controls for nitrogen oxides (NOx) and carbon monoxide (CO) catalyst for CO reduction. Commercially, the facility is an exempt wholesale generator that sells 100% of the electricity it produces directly to Williams Power Company Inc. (Williams) through a 20-year tolling contract arrangement.

The AES Corporation, the parent company to AES Red Oak, has operations in 26 countries on 5 continents including 123 generation facilities with a generating capacity of 44,000 MW and 14 regulated utilities with annual sales of 82,000 gigawatthours of electricity. AES has six other generating facilities in three other states (NY, CT, and MD) involved in the Regional Greenhouse Gas Initiative (RGGI).

AES requests the Senate Environment Committee to consider the following:

1. Global Warming is an international challenge and, at a minimum, must be handled in a coordinated approach at the national level. State and/or regional initiatives create the highest cost risk for consumers, competitive disadvantages for New Jersey business, and increase the state's dependence on electric imports and possibly create additional electric system congestion. AES encourages New Jersey to proceed with caution in any individual endeavor to address Global Warming. Instead, New Jersey should focus the thrust of its resources at the development of a national program that provides certainty for all stakeholders and a secure, long term strategy to constructively meet the global climate change challenge.
2. AES believes any program, and preferably a national program, should include the following:
 - a. Cover all activities that contribute to the concentration of greenhouse gas emissions in the atmosphere. The problems contributing to global warming come from many sectors of society, and each source contributing to the problem needs to bear its part of the cost of the solution.
 - b. Structure the program as a cap and trade system, using the model successfully developed in the United States to regulate SO₂ and NOx emissions. Such market-based mechanisms are the most orderly and efficient methods of addressing emissions challenges like global warming and will result in the lowest overall cost to society. The SO₂ and NOx programs resulted in low cost solutions with over-compliance in an expedited timeframe.

- c. Allocate rather than auction CO₂ allowances. Legislation or regulation should not be imposed unless it adequately provides protection for existing investments made under the historic legislative or regulatory environment. The way to do this is (i) to allocate to existing facilities a sufficient number of allowances that will allow such facilities to operate at historic levels for the immediate future and (ii) to impose reductions through targeted economy-wide reductions over time.
- d. Tackling the CO₂ challenge requires technology development. Currently, CO₂ technology is still in the research & development and initial demonstration stage. In the interim, it is important that the use of certified offsets be encouraged, not discouraged. An offset provides another compliance option that will provide direct and immediate environmental benefit and supports controlling the cost of a program for both consumers and business.
- e. Any new legislation or regulation must take a long-term perspective and ensure current commercial arrangements are not violated instantaneously. For example, New Jersey's power generation industry is dependent on a number of long term contracted generation resources that do not have contract provisions allowing pass-through of new CO₂ related costs. In fact, approximately 30% of New Jersey's electric generation is supplied by these resources. Accordingly, it is important that any solutions, whether at the national, regional, or state level, properly balance environmental, energy, commercial, and economic needs simultaneously. Failure to strike this balance will only create unintended consequences that result in higher economic costs for consumers and increased uncertainty for all New Jersey businesses.
- f. If a state level initiative is considered, it is imperative that it sunsets when a national level program is implemented.

Thank you for listening to our concerns.

Sincerely,

Chip Bergeron
Plant Manager, AES Red Oak