NEW JERSEY CLEAN AIR COUNCIL

PUBLIC HEARING

IN RE:

THE CLEAN POWER PLAN:

IMPACT ON NEW JERSEY

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I N D E X

(Richard Opiekun, Chairman of the Clean Air Council, requested that each member of the Clean Air Council introduce themselves and the organization they represent.)

DR. OPIEKUN: The format of this hearing is that of formal presentations given by invited experts followed by discussion designed to engage the Council and participants in a dialog about issues related to the Clean Power Plan. The goal of this meeting is to develop recommendations for the Commissioner of NJDEP regarding New Jersey's development of a compliance plan or acceptance of a Federal implementation plan. Additionally, recommendations made by this Council will be considered when the State revisits the Energy Master Plan for New Jersey in the future. Each speaker has a set time limit to present an overview of the issue from the standpoint of their field of expertise and the organization they represent. A brief time for questions and dialog will follow each presentation and an open format discussion encompassing all presented issues will take place following the last invited speaker.

Public attendees are encouraged to

provide testimony following speaker discussion. If you plan to address the Council, please sign in on the list near the door through which you entered this morning. Each person will be allowed a maximum of two minutes to speak. You may also provide written comments to the Council after the hearing via e-mail until May 20. Instructions for providing comments can be found at the bottom of the hearing brochure.

We have reserved this hearing room until 4 pm. If a large number of persons want to testify orally and if any persons have not testified by 4 p.m., those who can't be fit in prior to 4 p.m., please submit written comments to the Council. After the end of invited speaker presentations, we will advise on the number and order of those who have additionally indicated an interest in providing oral comment.

A transcript of the hearing will be made available on the Clean Air Council website at http://www.state.nj.us/dep/cleanair/ several weeks after the hearing.

Recommendations made to Commissioner Martin will also be available on the Clean Air Council website sometime in August of this year.

MR. VALERI: This year, the Council has concentrated on EPA's Clean Power Plan, a regulation that was finalized in August of 2015 that establishes specific state-by-state electric generator CO2 reductions to be accomplished between 2022 and 2030. Information about the rule is on the New Jersey Clean Air Council web site. The rule's implementation has recently stayed by the US Supreme Court pending the outcome of litigation before the US Court of Appeals. This litigation, and possible other subsequent actions before the US Supreme Court, could result in a range of possible outcomes. While the NJCAC can't predict the outcome, the New Jersey Clean Air Council believes it still prudent to solicit expert and stakeholder thoughts and ideas about approaches for New Jersey policymaker consideration relative to the CPP implementation.

In this regard, we are soliciting expert and stakeholder testimony and perspectives for addressing implementation requirements of the EPA Clean Power Plan in a manner that:

Best leverages actions New Jersey has already taken to create a low carbon future;

Leverages existing state energy,

environment, and economic policies;

Reflects the operational and structural characteristics of the wholesale and retail electric market in which the state and its electric generators operate; and,

Reflect the input of communities regarding potential health and environmental justice considerations.

While the topic of climate change and federal and state responses can evoke passionate debate, the focus of today's hearing are the implementation decision alternatives that EPA identified in the CPP rule and to determine through expert testimony and public input the best path for New Jersey to take, if the rule is upheld by the Court. These decision alternatives are:

Should New Jersey develop a compliance plan, or should it simply default to EPA's Federal Implementation Plan (FIP)?

Regarding the options provided by EPA under its CPP rule, would New Jersey be better served by a mass-based compliance approach that establishes a cap on emissions from existing electric generators or a rate-based compliance approach on existing generators?

Should New Jersey compliance approach incorporate intra-state and/or an inter-state emission allowance or emission reduction credit (ERC) trading?

If New Jersey's compliance approach is mass-based, should New Jersey adopt EPA's mass goal for existing units with EPA's new unit complement or should New Jersey adopt other measures to address leakage?

Who should bear the burden for compliance with the CPP rule? Should it be the State of New Jersey? Electric Load Serving Entities (LSEs)? Or, electric generating units?

Should New Jersey seek to participate in EPA's Clean Energy Incentive Program?

With that as background, let me introduce our first speaker. That will Assistant Commissioner John Giordano, Assistant Commissioner of the Department of Environmental Protection Air Quality, Energy and Sustainability.

ASSISTANT COMMISSIONER GIORDANO:

Thank you, Rich and John for setting the stage with regard to the discussion today on the Clean Power Plan and the State's Energy Master Plan. I certainly trust the rest of today's hearing will

be both interesting and informative.

As I look out, I see lots of Ph.D.'s and P.E.'s and Esquires. And I'm glad my staff got Esquire up there, I'd feel left out.

So on behalf of Governor Christie and Commissioner Martin, it's an Honor to be here today to welcome members of the Clean Air Council, the speakers, and the public. Commissioner Martin extends his regrets, as his scheduled, unfortunately, does not permit him to be with us this morning.

As Assistant Commissioner for Air Quality, Energy and Sustainability, I want you to know how much I value the Council's input, and I want to express my deep appreciation for its hard work, dedication, and sound advice over the years and its continued focus on matters of utmost importance.

Today's topic is a Clean Power Plan, otherwise known as 111(d), a rule proposed more than a year ago by EPA. As we all know, states are facing important challenges, considerations, and decisions when it comes to this plan. That said, New Jersey is 1 of 27 states appealing the plan. Since we don't have the time today, unfortunately,

to discuss our appeal in detail, my staff provided links to our legal briefs which do so.

I believe all of us ultimately want the same thing. We deeply care about New Jersey and its health and safety. As such, we at the State level must make sure that all regulatory mandates are reasonable, achievable, and based on sound science.

Currently, New Jersey is one of the lowest carbon emitters in the northeast and maintains one of cleanest energy sectors in the nation. We've come a long way in successfully improving air quality, and we remain committed to continuing this legacy for future generations.

As our focus today is how clean New Jersey power sector is and why, I'd like to show you a few slides today that demonstrate our progress of reducing air pollutants from the State's power plants and how this has resulted in a power sector having some of the lowest emission rates in the country.

So when it comes to New Jersey's power sector, measuring this in pounds per megawatt hours, compared to other states, New Jersey's emissions rate is second lowest for sulfur dioxide, fifth

lowest for nitrogen oxides, and fifth lowest for carbon dioxide.

As you can see from the chart here, and hopefully you can see it from your seats, when it comes to sulfur dioxide, SO2, in 2013, New Jersey was the second lowest in the country for electricity sector.

Now, when I spoke recently to a group at the University of Pennsylvania, they were surprised to learn that, in fact, New Jersey had some of the lowest rates. Their perspective, being the other side of the river, was from New Jersey Turnpike, you know, they see the power plants, they see emissions, they see things like that. They, unfortunately, smell some of them. They were absolutely floored to find out that we ranked so low compared to other states, particularly Pennsylvania.

So as low as New Jersey actually is, though, for power plant emissions, we're continuing our efforts, as John mentioned, to further reduce SO2 reductions. Starting July 1st of this year, New Jersey sulfur in fuel requirements for light oil will drop from 500 parts per million to 15 parts per million, further reducing power plant SO2.

As you can see here, when it comes to

nitrogen oxides, New Jersey in 2013 was the fifth lowest in the country for the electricity sector and the third lowest for fossil units.

Here, with regard to carbon dioxide, you can see that New Jersey again in that year was fifth lowest in the country for both the electricity sector as well as the fossil units.

And this slide here shows that between 2001 and 2013, New Jersey's emission rate of carbon emission for fossil power plants dropped by 37 percent. Now, this is primarily because of reduced use of coal in boilers, an increase in the use of natural gas and combined cycle turbines, and an increase in renewable energy. And New Jersey is not stopping there, as you know. New Jersey renewable portfolio standards and increased use of the combined cycle natural gas power plants are further reducing the emissions rate. In fact, renewables are mandated to be 22.5 percent of the State's electric consumption by 2021.

Now, as we all know, New Jersey is 1 of 13 states where electricity is supplied by the PJM electric grid. But New Jersey's CO2 emissions rate is by far, as you can see here, the lowest of the other PJM states. Our CO2 emission rate is

approaching 500 pounds per megawatt hour, while the other 12 PJM states are between 1,000 and 22,000 pounds per megawatt hour. Therefore, on average, generating electricity in New Jersey emits a quarter to a half the CO2 as generating electricity in these other 12 states. What this means is that significantly lower regional CO2 emissions result when electricity is generated in New Jersey rather than the other states.

Now, here we have a graph, and I love this graph. The slide shows the percent electricity generation by fuel type from 2011 to 2014, so here you can see coal's dropped to 4 percent of electric generation. Ten years ago, it was about 20 percent. Renewables have increased to 4 percent and are equal to coal. And as I mentioned, our mandated 22.5 percent of our electric consumption by 2021. As you can see, natural gas has increased to over 40 percent. Nuclear is about 50 percent. Oil is roughly 1 percent or less. So 95 percent of New Jersey's electricity generation is nuclear, as you can see, gas, and renewable. All of these, EPA is promoting within its Clean Power Plan.

So in the interest of time, and we can go on much further, my technical staff has made

available a package of information that further illustrates our electric generation and provides additional information on New Jersey's progress in reducing air pollutants from our power plants.

In closing, we request that the Counsel consider how New Jersey should continue its clean power progress while avoiding unreasonable increases in the cost of electricity.

I want to thank the Council again for its service and sound advice, particularly over this past year, and we look forward receiving its recommendations in July.

Thank you.

(Applause.)

MR. VALERI: Our next speaker is President Richard Mroz, who is the President of the New Jersey Board of Public Utilities. President Mroz also serves as a member of the Governor's Cabinet. In his role as President of the Board, he's a member of the Electricity Committee for National Association of Regulatory Commissioners, as well as participating in the Subcommittee of Nuclear Issues - Waste Disposal. Prior to his time as President of the Board, he was in private practice and had a long distinguished career in public

service, notably as Counsel to Camden County, as well as Chief Counsel to Governor Whitman. With that, President Mroz.

MR. MROZ: Thank you, John, Mr. Chairman, Members of the Council. Good morning and thank you for your work and thank you for the opportunity to address the Council today on these issues. I'd like to also thank all of the speakers today for their input into these very important issues. And many of those who will present to you today are also individuals or interests that come before the Board, so we appreciate the dialog that is going on with a number of issues around our energy picture in New Jersey, around the CPP and other related issues.

But today I want to focus my comments on a series of issues particularly around the State's Energy Master Plan and the intersection with the Clean Power Plan. And I want to provide some historical perspective and context and insight, particularly into the history of New Jersey's fabric of public policy on energy and the environment prior to updating the Council on the specific issues relating to our energy future. More specifically, I want to talk about how the Energy Master Plan and

the policies and our actions to implement it are supportive of the goals of supporting clean air. So I'm pleased to provide some context on how energy policies interrelate to the policy issues around the Clean Power Plan.

The production and the distribution of clean, reliable, safe, and sufficient supplies of energy is essential to New Jersey's economy and way of life. Energy is a vital tool of economic growth and job creation across this State. Economic growth depends on abundant, affordable supplies of energy. And it's no secret that when considering a business' decision to locate, expand, or stay in this State, energy costs are a factor in that decision. This Administration has stemmed the tide of antigrowth, anti-job policies, and we've turned the tide in the right direction. The Unemployment Insurance Trust Fund in the State has been brought back to solvency in just two weeks ago. Governor Christie announced that the fund had a positive balance of $1 billion, saving businesses about $213 million in federal taxes.

Under the Economic Growth Act of this State, under the ERG Program, the Economic Redevelopment Growth Program, approximately 319

companies have used various economic development assistance programs to generate and retain jobs in this State. And the Administration's been working together to show itself real positive ways to improve job growth and progress in our economy.

New Jersey is experiencing its strongest private sector employment growth in 15 years and has seen six consecutive years of private sector job growth.

The number of residents reporting to have jobs, again, has reached an all-time high in March, climbing to an historic average of 4,378,500, after hitting a record just the month before. So the State's economy is on the move and energy plays a big part of it.

At the Board of Public Utilities, I understand the significance that it plays in the Christie Administration's efforts to make our State competitive and affordable when it comes to the provision of cost of utility and energy services.

In December 2011, Governor Christie released the 2011 Energy Master Plan, and in doing so, the Governor asserted that the production and distribution of clean, reliable, safe, and sufficient supply of energy is essential to New

Jersey's economy and way of life. In 2011, EMP was guided by the Administration and private sector decision-makers through a period of economic challenge and has provided long-term goals and implementation strategies flexible enough to respond to market changes and new information about the relative merit of competing energy technologies and strategies.

Now, as the Chairman of the Cabinet level committee that assembles and reviews the Energy Master Plan for an update in 2015, I can report to you that that perspective that underlie the first Energy Master Plan of this Administration in 2011 to consider its impact on the economy was very much in our sights as we took up our work. With this context, I, along with my colleagues on the Energy Master Plan Committee, understood the significance of these issues to industry and the economy more broadly, the financial issues that generally affect businesses and jobs. And it's this perspective that's reflected in the Energy Master Plan and the Update of 2015.

The Energy Master Plan and the 2015 Update provide a strategic vision for the use, management, and development of energy in this State.

There were five overarching goals from the original plan and 31 specific recommendations in 2011. Those are: First, to drive down the cost of energy for all customers; second, to promote a diverse portfolio of new, clean, in-state generation; third, to reward energy efficiency and energy conservation and reduce peak demand; fourth, to capitalize on emerging technologies, particularly in the transportation and power production sectors; and fifth, to maintain, support, for our renewable energy portfolio standard.

The Update provides adjustments to some of those 5 goals and 31 recommendations. However, since that time, because of particularly weather events, there were other areas that the EMP Committee thought it was necessary to address, and those are resiliency. However, from the time of 2011 Super Storm Sandy and other devastating events did turn our attention to the need for other resiliency efforts. Therefore, comments were sought and recommendations made in this new section of the Energy Master Plan Update and based on New Jersey's plan for action in the aftermath of those weather vents, particularly Super Storm Sandy. This new EMP section covers areas specifically regarding

protecting critical energy infrastructure and proving our electric distribution companies emergency preparedness and increasing the use of distributed energy resources and the creation of long-term financing and banking, such as our energy resilience bank.

These resiliency improvements to the energy infrastructure include, among many other measures, the raising and rebuilding of our electrical substations and switching stations, adding high voltage lines, and a replacement of miles of gas distribution pipes and service lines.

From the beginning of the Energy Master Plan Update process, we were clear that the update was not intended to develop a new Energy Master Plan with revised goals. Throughout the process, the EMP Update was intended to bring the implementation status of the EMP goals up to date and to add those new energy issues for storm response and resiliency.

While most of the comments submitted were important on energy issues, some were not relevant to the EMP Update. Those comments were not in line with the purpose of the Update to report the status of the 2011 goals and to deal with the new

sections. For instance, some commentators opposed policies contained in the 2011 EMP such as the State's support for energy infrastructure improvements, including natural gas pipelines that allow ratepayers to take advantage of cleaner, low-cost energy.

While energy and the environment are intertwined, the energy component is broader than just the environmental issues and must include balance of reliable, reasonable, and equal access to energy by all customers: Residential, commercial, and industrial. And throughout the EMP Update process, the Christie Administration was committed to making sure that stakeholders and the public had the opportunity to provide input, to hear comments of interested parties on the 2011 EMP goals and recommendations, and the new sections on resiliency. I provided over three public hearings in August of 2015. A total 32 individuals commented at the hearings, and we received over 1,000 written comments.

I believe that the EMP Update is a good product of our efforts, tells a very good story about the energy picture in New Jersey. New Jersey has made good progress towards the five overarching

goals and many of 31 policy recommendations contained in the 2011 Plan. Overall, New Jersey has lower energy costs, while at the same time advancing energy efficiency, demand response, and renewable energy. The State's fallen from a very high cost energy state to a range that now falls within the national average for total energy costs.

And since the issuance of 2011 EMP, electricity prices in New Jersey has fallen by approximately 8 percent for residents and small businesses. And recently, residential retail electricity prices were down on an average of 4 percent from 2011 and large and midsize businesses that shopped their electricity on the wholesale market probably experienced greater declines. The State's drop from having the fourth highest electricity cost in the nation to tenth. This is progress, but it's not enough. We continue to pursue measures that will help drive down prices even further, especially because of future costs associated with building significant new transmission infrastructure which are approved at the federal level and out of the State's control.

The current, vibrant, and robust gas infrastructure in New Jersey has allowed residents

and businesses to take advantage of low-cost natural gas prices, help to moderate energy prices overall in New Jersey, and has the potential to increase economic development in this State, all while encouraging fuel sources with lower emissions for generator use.

Today, New Jersey's natural gas prices are among the lowest in the country. According to the Energy Information Administration of the DOE, the average price of natural gas delivered to the residential customers fell approximately 45 percent from a high of $15.21 per thousand cubic feet in 2008 to $8.37 in 2015.

Now, the State's commitment to actively promote new natural gas fueled electric generation and the enhancement of the expansion of natural gas transmission distribution systems has helped to reduce energy costs and emissions. Over the past several years, New Jersey has benefitted from the enhancement and expansion of its natural gas transmission and distribution systems. Expanding and upgrading the natural gas inter and intrastate pipelines has helped to lower the cost of energy in this State to homeowners and businesses and to reduce emissions.

In the last seven years, the BPU has approved 17 gas infrastructure replacement, upgrade, and mitigation plans sought by the gas distribution companies. The gas distribution companies initial filings sought infrastructure upgrades totaling over 4.4 billion. And after review, we have approved investments and upgrades totaling $2.23 billion. An additional 230 million in proposed projects are still pending in front of the Board. The pipeline replacement projects for those distribution companies already approved by the BPU will indeed reduce emissions of methane from leakages.

In December 2015, the Board approved PSE&G's gas system modernization program to replace up to 510 miles of aging gas infrastructure. In doing so, PSE&G will use data on methane emissions in conjunction with the Environmental Defense Fund prioritize this work. The EDF has partnered with Google and the Colorado State University on a program to detect, map, and quantify methane emissions from natural gas distribution systems quickly and cost effectively, using new mapping and analytic methods. The organization has spent six months surveying portions of the PSE&G service territory being targeted for replacement under the

gas modernization program.

The Energy Master Plan does admittedly rely on lower cost natural gas for generation, as well as to reduce emissions from generation. However, the EMP also recognizes the strength of a diverse portfolio of generation, particularly that which was outline by Assistant Commissioner Giordano. The EMP recognizes the strength of this diverse portfolio, as was pointed out. Natural gas at about 46 percent of our generation fuel source, nuclear 46 percent, almost 3 and a half percent in renewables, and only 3.7 percent from coal.

So the State's electric energy resources are diverse and clean. New Jersey is recently ranked among the five states with the lowest emissions from electric generation despite being the 22nd largest generating state. This is a direct result of the State's resource of mix of generation.

New Jersey's ranked third lowest, as pointed out by the Commissioner, in sulfur dioxide emissions, fifth lowest in carbon dioxide and mitogen. And according to recently released 2015 data from the EIA, New Jersey has now become a net exporter of electricity. The change is so dramatic

that we're actually double-checking figures to make sure that's correct. And if correct, as we suspect it is, New Jersey has achieved one of the goals of that Energy Master Plan, not relying on out-of-state electricity generation from higher emitting coal fired power plants.

Without New Jersey's investments in energy sufficiency and renewable energy and the efforts to develop clean, new, in-state generation, none of our efforts and successes would be possible. Through the EMP Update, we can report that New Jersey continues to meet the progress toward our renewable energy portfolio standard at nearly 15 percent of retail electricity supply comes from renewable sources, with solar accounting almost 3 percent of in-state generation. New Jersey is fourth in the country in deployed solar and recently surpassed the 1.6 gigawatt installed capacity benchmark.

The EMP strongly supports the development of solar energy, which is evident in the fact that 92 percent of that 1.6 gigawatts of total installed solar was installed during the Christie Administration. Now, of significance, New Jersey has invested almost $2.4 billion in all renewable

energy in the last 15 years. This includes the former solar rebates of about 363 million. And since the implementation of the SREC market, the Solar Renewable Energy Certificate market, New Jerseyans have invested $1.6 billion to pay for the incentives for the development of solar. To be clear, New Jersey ratepayers have invested $2 billion just in solar.

Our commitment to energy efficiency is equally as compelling. In the past 15 years, New Jersey has invested $2.4 billion in energy efficiency. This includes almost 1.7 billion invested by ratepayers through New Jersey's Clean Energy Program, of which 900 million has been invested during the Christie Administration. And over the last 15 years, the Board's authorized our electric and gas distribution companies to invest $727 million in energy efficiency programs that they administer.

Through New Jersey's clean energy programs, energy efficiency offerings over the years, we've saved 4.66 million megawatts of electricity and 80 million therms of natural gas savings. This has resulted in 880 megawatts of peak demand reduction for electricity. On average, the

New Jersey Clean Energy Program results in savings of about 320,000 megawatts of electricity annually. And over the 15 years, the compounded energy savings have been 27 and a half million megawatts. That's enough energy savings to power 3.1 million homes. The effect of the savings approximate about 4.6 million megawatts less of electricity that's needed to be generated, transmitted, and distributed to customers this year, resulting in savings to those customers and to reduce demands on generation regardless of the their fuel source.

The positive impact of these energy efficiency renewable energy investments on air quality have been substantial. New Jersey's Clean Energy Program total investment alone in energy efficiency and renewable energy have resulted in a cumulative lifetime reduction of about 880 million metric tons of CO2, 239,000 metric tons of nitrogen oxides, 252,000 metric tons of sulfur dioxide, and about 3100 pounds of mercury.

This means that all of the energy efficiency measures and solar installed for the Clean Energy Program will result in over 80 million metric tons of avoided CO2 at the current emissions rates over the lifetime of the measure we helped to

install. This is all significant, in my opinion.

Now, given the diverse generation and energy portfolio that I've outlined and the significant investments that I've mentioned in the energy efficient and renewable energy, the commitment that this State has had for other sources, such as nuclear energy as a generating source, and the focus on investments in infrastructure at lower cost using natural gas, I'm a bit confounded that the CPP, as it was proposed, virtually ignored the people of New Jersey for these investments that they have made over the years. The CPP did not give credit to our nuclear generation, did not provide any credit for renewable energy deployed. Despite the fact that New Jersey is fourth highest in the country does not provide credit for the billions that were invested in energy efficiency and other renewable energy sources and would not recognize the types of investments that we've made with cleaner natural gas.

These are just a few of the general reasons that the Administration has challenged the CPP. And there's another issue in the context of the CPP of which I want to make mention, though it's not necessarily a policy issue that directly

confronts this Council or the matters related to the particular emission considering air quality. But I believe it's worth mentioning because it affects me as the Chief Energy Officer for the State of New Jersey and Chairman of the Energy Master Plan Committee, and which should be troubling, quite frankly, to any state official.

One of the underlying concerns of the CPP was that a federal government regulatory agency which has the jurisdiction over federal air laws had seen fit to intrude on the prerogative of state officials in the conduct of state energy policy. Indeed, this became clear to me during the deliberations of the Energy Master Plan Committee and my work as the Chairman. During that process, I was troubled by the impending CPP rule to potentially constrain my opinions as a State Official on the EMP. I was further troubled that the proposed rule could have very well been used to compel the Legislature and the Governor with federal government regulation on energy issues in this State.

So like many of my other colleagues in other states that have responsibility for implementing energy policies, I therefore supported

the legal challenge to the EPA promulgation of the CPP. I, along with other state regulators and energy officials, filed certifications to the legal challenge to the rule promulgation as being an unconstitutional intrusion by the federal government on States' rights.

Now, we'll, of course, accept the rule of law and the final decisions of courts. Depending upon that decision, we will then consider compliance with appropriate rules.

Regardless, I believe that the path outlined in the EMP provides a foundation that will continue to serve New Jersey's energy needs and might provide an equally strong foundation for compliance, if necessary.

So I just want to highlight very briefly that the EMP and its update will continue the policies we set forth. We'll continue to drive down costs by using a diverse mix of a portfolio generation distribution. We'll continue to support new in-state, clean, natural gas generation, as well as other generation sources. We'll continue expand combined heat and power. We'll continue to promote new and expanded pipeline development that is responsible and permitted properly and operated and

maintained. We'll continue to support solar, particularly on brown fields and landfills. We'll continue our efforts in energy conservation and renewable energy. We'll continue to support emerging technologies and improving our infrastructure for resilience.

We've made much progress on the implementation status and the goals of 2011 EMP, but there's always work for improvement. The EMP Update has been a pursuit to identify and implement improvements to move the State forward in its achievement of its energy needs while protecting the environment. The Christie Administration is working hard to confront these and many other challenges, whether they be budget, taxes, infrastructure investments or burdensome regulation. And we want to do this to ensure that New Jersey remains competitive today and in the future.

And I want to thank you for allowing me to make these comments today.

(Applause.)

MR. VALERI: Thank you very much. I think we're on schedule to answer some questions.

MR. MROZ: Yes, I'd be happy to answer question.

MR. SVENSON: Maybe just one question.

Thank you very much, President Mroz. I'm Eric Svenson. Reading through the Energy Master Plan -- first of all, the State is definitely a leader in terms of what it's done, in terms of a balanced portfolio of resources and being out there from a renewable standpoint, and so on.

The question really is around nuclear power. In the Energy Master Plan, the goal has been evaluating loss nuclear capacity. And with the Oyster Creek Plant scheduled to shut down in 2019, and also projections now of very low gas prices going forward, I'm really wondering to keep that diverse mix of power, would New Jersey consider any special incentives to maintain or put in new nuclear, similar to like some of the southern states have considered, putting into a rate-based or other things, a new nuclear plant.

MR. MROZ: So there are probably three issues to mention in answering your question. First, as it relates Oyster Creek, I just want to be clear -- I'm often asked this question. Thankfully, despite what was the projections in 2011 under the original EMP, at that time there were concerns that with the loss of Oyster Creek in and around the

2019-2020 time frame, which is on schedule still for closure, that there could very well have been reliability concerns, whether there was, in fact, the need to replace that generation in that location. PJM grid operator in its analysis reports that those reliability concerns are not present with the closure of Oyster Creek and the loss of that generation in that location does not appear that there will reliability concerns. However, it does mean that more than likely there would be the need for additional generation across the State. So what I mentioned before, about us being a net exporter could very well change, depending on what the metrics are. So we continue to, nevertheless, even though there was no reliability concern, would be focused on replacement of the generation, in-state generation.

Second goes to the issue of the State supporting directly a particular generation source. And particularly around nuclear, as other states have done. The other states that have new nuclear build, which for Georgia and South Carolina and other states have looked at it, are still integrated states. They still have their electric companies generation and distribution. Of course, New Jersey

back in the '90s deregulated, so we no longer in our jurisdiction or as a matter of public policy the State's direct support for a particular generation source. In fact, that's a competitive marketplace. So to the extent that we, the State, would consider a direct support like those other states have done, which put it in rate-based, that is not something that right now we could do. That's a public policy matter that if -- to be confronted by New Jersey, all New Jerseyans, by public officials, the Legislature, and the Governor would need really to make a change in the policy we have on generation, which would be then to bring generation back into an integrated resource environment. So I can't answer whether there's the appetite for that.

To the extent that we support, as the EMP suggests, we continue to support the nuclear industry. We will do what we can to support it or to encourage it or to encourage if there is to be new build anything we can don't otherwise to continue to support it here in New Jersey.

One area that might provide an opportunity, which is a lot of discussion about this year, just because the sheer cost of a nuclear build, traditional build, if our small new modular

reactors, the new technology that's emerging, were smaller generating units, have nuclear fuel could be built at a much lesser cost, but we're still talking on the order of 4 to 5 billion dollar per generating unit investment, which is significant no matter how it's paid for or what the rate infrastructure might be. We'll continue to support it as we can is the bottom line, and it's something that probably nationally there needs to be a policy, not just a state policy on nuclear energy.

MR. SVENSON: Thank you very much.

(Applause.)

MR. VALERI: I'd like to introduce our next speaker who is Ken Colburn, Principal of the Regulatory Assistance Project. Ken joined the Regulatory Assistance Project in 2011. RAP is a non-profit made up of veteran utility and environmental regulators, providing technical and policy assistance to public utility commissions and regulatory agents throughout the United States, China, European Union, and India. Mr. Colburn advises energy and environmental regulators and other parties on air quality and climate-related issues and opportunities associated with regulatory compliance, energy efficiency, renewable energy,

distributed generation, integrated resource planning and other energy policy matters. Mr. Colburn comes from a very diverse private and public career involving a myriad of climate issues of note. Mr. Colburn led the New Hampshire Department of Environmental Services Air Resources Division.

Thank you, Mr. Colburn.

MR. COLBURN: Thank you very much. Thank you, John.

I have to tell you how delighted I am to be here. I am a little more intro on RAP, but from my own personal background, and RAP, many of you may know, perhaps not all, the regulatory system project was founded about 20, 25 years ago by a group of veteran PUC regulators. And the way I characterize it is they were folks who had served in these capacities and didn't want to be advocates or partisans, just knew what it was to sit in these chairs. And the way I frame it is they want help existing commissioners avoid the same mistakes they made when they were in those chairs.

About five or six years ago, those principals came to understand that there would be overlap in air quality and climate policy with energy policy and they better get a few airheads on

the team, as well. And so that's where I came from. In fact, that used to be my license plate. It explained both my job and my driving.

As John mentioned, I was Air Director in New Hampshire for several years and then Executive Director of NESCAUM, the regional operation of which New Jersey a key part in Boston for a couple years after that. So I've had a long history or opportunity working with New Jersey DEP, with BPU, and I've been really appreciative of your leadership all along the way, and all the more so of then to join here today. So we're about to get set.

Let me start. I can just skip ahead on some of the slides. You all know that the Clean Air Act has kind of a reputation no good deed goes unpunished. And I think New Jersey's circumstance now with respect to the Clean Power Plan is a prime example of that. You are facing some challenges, in part, as a result of the good works that you've undertaken already. We're facing unusual challenges as a result of that characteristic of no good deed goes unpunished, but also because the changes in the industry at this point. You know, we're faced with adopting a Clean Power Plan against a future that we don't have a good clue about. So that's a

particular challenge. And hence, my message to you today, which is keep in mind context as you engage in that planning process. You won't find RAPers in your hearing room, in your dockets, but you will find us trying to advise you and help coach you through some of these processes.

My coaching today revolves around three key context points. One is the issue about the horse about the cart; one is about skating to where the puck will be; and one is the compared to what question that we should always be asking.

Now, it would be impolite for a guest to come at the invitation of the Council, having posed a number of questions and not respond to any of those questions, so I do try to pay a little attention to that. And then I want to give you a look ahead as I see it.

The key point in terms of context is that many states and utilities are diving right into the Clean Power Plan, and they're trying to develop, you know, what's the most cost effective strategy today to deal with this. But there are a host of other market rules, environmental regulations, initiatives, technologies, business trends that are impacting the power sector, as well. Those guys are

struggling to keep up with us, and many aren't. And the results of the State in terms of CPP compliance, but more importantly its overall economy, are going to hinge on all of those, not just the CPP Plan. So instead of doing this top down kind of approach, I'm urging that we approaching it more from a bottom up approach or at least inclusive of all the factors.

So what's that first mistake that people often make? Getting the cart before the horse, diving directly into the Clean Power Plan issues. We did a little paper of that title and I have a couple of copies in the back. I hope the Council has some. But CPP planning is really, as Commissioner Mroz mentioned, it's an energy optimization challenge. It's not just an environment issue anymore. And optimization challenges require understanding of what are the State's energy goals and priorities, the whole overall economy and how it relates to energy.

Happily, as the Commissioner mentioned, New Jersey has wisely put its Energy Master Plan horse before its CPP cart, so you're in remarkably good shape compared to a lot of states that have that stoplight upside down.

You may, however, want to continue to

revisit the EMP as you, again, wisely done in the past. A lot of these things are done and then they sit on the shelf and then they become obsolete and then it's as though they were never done. At least New Jersey is working on regular updates. Some other updates may be in order in light of some of the trends that are happening in the industry.

For example, if you look at the Energy Master Plan's key actions, the ones that Commissioner went through, the hard assets about the State's electricity resources, then renewables, and efficiency, innovative technology, and the infrastructure piece, when you look at that, the hard assets are the one where the language goes build, expand, develop. And the more softer ones, the renewables, the efficiency, the innovative technologies, are more promote and monitor less aggressive language on that. It's also interesting that cost effective appears for those but doesn't appear for the hard assets. And don't we want those to be cost effective, as well?

Most importantly, I fear that there's an under-appreciation reflected in the plan -- this may be a function how rapidly the changes in the industry occur -- of what's happening with respect

to machine-to-machine communications, the Internet of Things, the fact that we will have threats to business as usual in terms of our power sector as a result of those things, and the development of analytics, the impact of storage which is doubling now every two years, consistent with that Moore's law did to computers. Think of that. If this litigation takes two years, storage will have doubled in the time that that happen and the threats to the power sector as we know it will thus have doubled. That's a pretty sobering conclusion. So it may be important to revisit some of this.

The second mistake is skating to the puck. Wayne Gretzky had this famous quote, "Skate to where the puck was going to be," and that was his recipe for his success. My colleague John Shenot did this paper, and again, there are a couple of copies in the back. He compared a lot of states' activities on the Clean Power Plan to a group of kids around a soccer ball, you know, how they all moved with the soccer ball instead of playing their positions, so you can do give-and-go. That's sort of where a lot of states are at this point, not skating to where the puck is going to be.

Well, that, of course, begs of

question where is the puck going to be? And carbon is certainly going to be in there. I think we all recognize that at this point in some form or another. And certainly, New Jersey's DEP and BPU and the Council are wisely communicating with each other, as this meeting shows, and evaluating strategies to survive even if the litigation does not prevail in the end. But more importantly, with other environmental issues loom, these are even apart from the technology one, EPA just approved, as you know, new ozone standards. Those may affect New Jersey. There's talk about a delay in the second round of the regional haze process, but that's just a delay. It will be five more years down the road and we'll say, you know, how we're going to deal with this. The point is that there are more stringent rules and standards for criteria pollutants, toxics, water quality and quantity, ash, the whole shebang. It's written into the Act the EPA has to review and adjust, if necessary. This isn't just something they're doing; they'll compelled to review.

So we suggest a good, strong outlook associated with multi-pollutant and planning. Let's approach this as the whole soup that it is as

opposed to serial pollutant by pollutant processes. Carbon, ozone, particulates, regional haze, the whole shebang, if you take those serially, imagine the exponential curve of the regulatory burden of executing that as we start measuring parts per trillion as opposed to parts per billion. Many of us grew of in parts per million days. That shows how obsolete we are.

And we're not just talking the power sector anymore. Transportation will rolled into those same issues and other industry, and even at some point probably residential, because it ends up being a total large source. So the key is to integrate energy and air quality planning in our view.

Now, happily, those relationships you've developed, are working well for you and you can leverage those, build upon them, and then orient yourselves perhaps in some way to provide the strengths of integrated resource planning with the strengths of CPPs and state implementation plans of the Clean Air Act, hopefully eliminate some of the weaknesses of both along the way.

RAP has done some thinking on this, as well. It's still a draft. It's still embryonic.

We call it Integrated Multi-Pollutant Planning for Energy and Air Quality. You could add water to that, but I couldn't figure that acronym. This one is bad enough. And New Jersey may want to be one of the early states to think about how that integration could occur, because your relationships are already tight, because your leadership's are already secure. Maryland is working on multi-pollutant stuff, so they've got the multi-pollutant part done, but they don't have the energy integration part done. And so that's something you can consider. And I'm glad to support that paper and others if you'd like.

Then the third item I mentioned is the "compared to what" question. And this is a key one because we don't want to be planning for the CPP based on today, because today isn't going to be today very long, and there are massive uncertainties facing us. The first and obvious one is what kind of CCP survives legal challenge, if any. More than likely, as we've seen in the past, there are things in a rule that are objectionable and EPA has to fix but not the whole thing. Well, which is which at the end of this process is a good question. What kind of administration will we have implementing that regulation, however it comes out. And in the

meantime, we have technologies that aren't going to stop for any of that stuff. And then what changes in electrical demand, what bypass opportunities and so forth would those technology changes create?

We may have more extreme weather events that appears likely. And it's not like Sandy was a theoretical thing for New Jersey. That's a little harder for some of the Midwest states to understand, but you guys faced it firsthand. And then, of course, what other things will change that were not even anticipated today.

That's why I would suggest that as you look at this there are relatively few certainties, and among them are the wisdom of continuing to plan. You know what they say, that all plans are useless but planning is critical. All plans are wrong. And focus that on risk and sensitivity. If we're off by a little, does the result change by a lot. If so, then you have a problem. And maybe the way to target this is to say, okay, what scenarios, what constructs, what plans perform least badly under the broadest variety of circumstances. One could do worst than least bad.

In terms of the specific issues the Council asked about, the Federal Implementation Plan

or State Plan? The FIP would certainly be cheaper, because if the EPA does it, you don't have worry about it. But I suspect that most of your sources would rather be able to continue to talk to State officials rather and federal officials. I certainly would if I were a source and I'd cherish the fact that they did when I was a regulator. So talk to your sources about that one.

The mass-based to rate-based issue, I think that DEP's analysis of this today has been the superior analysis leading to a rate-based conclusion in the country. You've just done an extraordinary job. And try to challenge it, and you will find why I think that. It's just been well thought out. Now, that's for today's situation, which the Commissioner described extremely well. How much will that echo tomorrow situation remains one of those big uncertainties. Will it be optimal as the sector transforms? Will it be optimal as other sectors are included? For example, when refineries are regulated, you can do a mass-based program for both and seek the least cost solutions across an electricity refinery set of sources. That won't be as easy, maybe not even possible, in a rate-based scenario. Well, but then we're into how long will

that take and so forth. But this is the kind of thing to think about in the future, for the future.

And then speaking of the future, might EPA have a way to switch between the two? They're just trying to roll this thing out, they're just trying to get it under their belt. They're clearly not thinking about changes midstream, but they clearly will have to think about that down the road. So you should be thinking about it too to just get your arms what might be involved.

And then it's not as though a mass-based approach is God's gift. There are problems there, too; notably, of course, how you allocate the allowance regs in the first place, a hugely contentious issue.

One of your questions related to trading. Trading, as you know, reduces costs by allowing lower cost option to be sought over a broader universe of applicable sources. But it also reduces your control, particularly if there are multi states involved, because then you have some agreement or some operating condition or paradigms that aren't solely at New Jersey's determination.

There may also may be public expectations. You know, I get shoes that are made

in a different state than New Hampshire, what do you mean I can't trade? Your sources may object to not having the opportunity to trade. So, again, talk to your sources on that one.

The issue of a new source complement for addressing leakage, I think is one of the stickiest questions. They're both bad choices. Uncharted is how EPA will actually assess treatments of leakage. It would certainly be much easier to accept the new source complement, but that's not a very generous addition, as you all know. That would be easier because it's all under one umbrella and it all operates as one system, but neither of these are really good choices. And there may be some change. I'm not an attorney so I don't have any special insights, but this could be one of the areas that you will find in the court decision. So on your list, I would suspect that you might want to keep this one lower down on the list and see what the Court has to say.

In terms of the compliance burden, who should actually be the compliance entity, the State, the load serving entities or electricity generating units themselves. The easiest for you to do probably is the EGUs and they're most used to it.

The most appropriate might be the load serving entities, but the State as a whole may give you the biggest flexibility. So this is really a continuum. And it's a question of weighing everything else, where do you want to be on that continuum. Certainly, you do want to take advantage of markets to the greatest degree possible at whichever point in the continuum you are. And, again, how difficult is it to change any of this in the future would be a useful consideration going forward.

The CEIP, Clean Energy Incentive Program, was an add-on onto the CPP, and I think it shows. It's a good idea, it's well intended, but there are some questionable implementation issues associated with it, not least the fact that it's only two years. I'm not suggesting that you don't do it, but I would suggest that depending on the approaches used, certainly a mass-based approach would allow you to do set-asides to do your own treatment for low income and disadvantaged areas.

We have given some initial thought -- and I don't want to represent to you that this is big -- but we think it's also possible to do a set-aside approach under a rate-based path. I think the states can think up some innovative ways to do

that. So I think New Jersey may be able to do better on its own either using a CEIP as a complement or just handling those issues in constructive ways on its own.

So turning to the looking-ahead issue, the key thing as I sugar off the changes in the industry are that for a hundred years now we've only managed supply to meet demand. Demand is what demand is. Our job in the power sectors is to manage supply to make sure that that demand is met. But now, with those devices that I talked about, machines talking to each other and aggregation through the Internet of things, we can now manage electricity demand. I'm of the understanding, for example, that Google through its nest thermostats is selling ancillary services, which is one of the most valuable subsets of power market to Ontario Power. Ancillary services from devices. Amazing.

Right now, it's not that it can't be done, it's just that we're waiting for penetration; changeover in the refrigerator so that they can each shut off for five minutes and you can shake peak load by 20 percent, that sort of thing.

This will evolve to a real market. We'll be able manage supply and manage demand.

That's a real market. In a real market, what is the role for regulators? What is the situation with regulatory compact? These are huge issues. And it's not within the purview of DEP to reach those conclusion, not with in the purview of the BPU to reach those conclusions. You know, the Council has a broad brush, and maybe you can think about that and say some things on that front. The key point is that we're in unchartered waters on this front. And as a result, risks can be pretty high.

If we're looking at the creation of a market, then does that mean we'll have other market entrants that are monetizing their use of unused capital assets, my guest room, my vehicle, my peaking plant? And sadly or frighteningly, I'm not the only one who's thought of that. There's Utility DIVEs. Will utilities become DERs for Uber?

And the economy has changed dramatically in the last several years. It used to be that we needed -- you know, in the post-war period we needed 3 percent increase in energy to get 1 percent increase in GDP. That has flipped. And this graph done by EIA in 2013 says .9. And their latest data -- they haven't updated the graph, but the have updated the data -- is .8. So we need less

than a percent of energy increase to get more than a percent of GDP increase. Big change.

And some of you say, okay, well, that's because fracking we've done so well, CO2 emissions are down, you know, this is why we're in good shape. Not so. The natural gas switch-out, which called fracking for a better word, is the brown area. What you see is less than a third of the total reductions and CO2 emissions that we've already seen. The pink area is efficiency, reduction in demand due to efficiency. And the green area is the renewables. So it's not just a matter of gas playing in this market. There are at least three dynamics, and they're all pretty aggressive.

On that efficiency one, the Northwest Power Plant, as you know, the Power and Conservation Council looks at load going forward. It's sort of like their independent system operator, their RTO, and they have looked for now 30 years and focused on efficiency and looking at the next five years, the plan just to approved by those four states, Washington, Oregon, Idaho, and Montana, I believe, have decided that efficiency is going to bear the brunt of load growth in the future, as well. So

this isn't a question of they've already used but will improve. There isn't any. And their quote is Growth in electrical demand will continue to be best served, even industrial load, by our commitment to energy efficiency, not building new plants.

Now, that's good on a number of fronts, but the most important thing is the risk is less heading into these uncertain times and the cost is ultimately less. When you're thinking of the hard assets that would otherwise be necessary to build, folks out there, this is CBC saying, you know, what if pipelines and what's in power plants don't last long enough to pay for themselves? Here's the Bank of England's Governor saying there's a risk here of fossil assets getting stranded. That's in the Financial Times. You have the BlackRock saying the same thing. You know, this isn't the tree-huggers saying, careful, we could be stranded; this is the financial community saying, careful, we could be stranded.

There may even be -- this is totally out on a limb by me, but I think there even be an analogue with the Waxman-Markey Bill. In 2009, that bill did not pass Congress. But we are below the CO2 emissions today because of those graphs I

showed. Might it be that the CPP has already set in motion that which it will primarily achieve? The markets are already changing. The utilities are already changing. The consumers are already changing. And we're awaiting. It might be that we don't end up even needing the CPP. Now, I'm thinking the EPA is probably going to proceed ahead with it, but it may have accomplished all it needs to already, at least as a starting point.

So I think as you approach the plan, the recommendation of Council should be to focus on New Jersey future competitive position, reducing the risks that you could face, increasing the flexibility, which is the flip side of reducing risk, of course, and avoiding potential stranded assets.

Efficiency and renewables certainly point in that direction today. They provide competitive advantage for tomorrow because there are typically cost lower, certainly emissions, fewer risks, they can be scaled more easily, it's not as much infrastructure investments associated with it, and the multiple co-benefits, not to mention public health and water are pretty substantial, as well.

Indeed, as the Commissioner mentioned,

New Jersey has been a national leader on the renewable side of that. And the renewable side is the more expensive side, as all you know. On the efficiency side, not so much. And this is ACEEE score card, and New Jersey is 23rd on that at .68 percent of retail electricity load per year. That means that the best states out there are doing two and three times per year what New Jersey is doing. So there's room for improvement there.

And then just to wrap with some of that revisiting the MP that I mentioned at the beginning, maybe instead we should look at lines 2, 3, and 4 for the expand, build, develop, taking advantage of the increasing level playing field that we're seeing through the REV process and the Minnesota e21 process that the bypass risks that may occur as a result of storage, the use of the Internet of Things, the Data Analytics, the whole transition to the genuine market that I talked about earlier. And meanwhile, support that with promotions, support and monitor of the hard assets, those where you could be at risk if you dive headlong and focus on those things.

So with that, I'll wrap. If we have time, John --

MR. VALERI: Actually, we're probably running out of time. You're going to be around for awhile?

MR. COLBURN: I will. I'll be here al day.

MR. VALERI: If it's okay with the Council, I'd like move to our next speaker.

Thank you.

(Applause.)

MR. VALERI: Our next speaker is Jackson Morris, Director of the NRDC. He's Director of Eastern Energy at the NRDC where he focuses on energy markets, state energy efficiency, renewable energy, and climate polices, and how these pieces can help drive progress federally. Prior to joining NRDC, he was Director of Strategic Engagement at the Pace Energy & Climate Center at Pace Law School. He has worked to advance clean energy policies in New York, Pennsylvania, and other state capitals throughout the East, as well as PJM and NYISO, and a bunch of other legislators.

With that, Jackson Morris.

MR. MORRIS: Good morning. Thanks for the opportunity to be here today. I always like following my friend Ken. He kind of hit issues

really well, I think.

I do have way too many slides, I'll point out ahead of time. So I'm not going to spend a ton of time on each one. I did provide the slide deck more as a resource for the Council to kind of go back to later. I'll also caution, I withdrew some of the modeling that we've been engaged in with a number of stakeholders. Typically when I meet with a state to talk through that, it's about two or three-hour meeting. So obviously, we don't have time to go into that level of detail today. But I do want to flag if there's specific interest on specific aspects of some of the modeling results we picked out for the slide deck, I'd be happy to follow-up with anybody as necessary to dig in a little more deeply, because there is a lot to it.

Pretty self-explanatory. We've already teed that up with Ken as far as what a Clean Power Plan is.

I do want to touch on this slide. If you take a look at the fourth bullet there regarding the Supreme Court stay, I think it's really encouraging to see that the Council is continuing to dig into these issues and continuing to think about recommendations for the State. Despite some

interpretations by, frankly, obstructionist to the progress in the Clean Power Plan, it's our interpretation that based on precedent in the past that the fact that the first compliance timeline kicks in in 2022 for the Clean Power Plan, it's going to be left up to EPA, depending what gets decided by the courts. Assuming that the Clean Power Plan is upheld, it's entirely possible that those compliance dates will stick. And so the best way, I think, to get kind of behind the eight ball is for a state misinterpret the fact that there's a stay means, let's put it on the back burner and not worry about it. In fact, it's much more, I think, forward thinking and progressive if you look at the opportunity now as you continue planning and thinking about it, even as that process plays out. And those hyperlinks in that slide there have some blog posts with specific details on that interpretation of the stay.

As folks are probably aware, the national projections are 32 percent reductions from 2005 levels, and that's the national statistic. It's the equivalent of taking 70 percent of the nation's passenger vehicles off the road. So I think it's really important. New Jersey has been a

leader in the space, has a relative clean power sector, but nationally this is a massive step forward on climate change.

This is just a quick infographic that has some of the numbers. Again, the Council is well versed, I think, in most of this. But I think it's important as we delve into the weeds on this that we don't lose sight of the fact that this is a really, really big deal and this is going to save lives and really mitigate the number one source of climate pollution in the entire country.

So these are some of the numbers up there. You can see the estimates on the benefit number there, between 34 billion and $54 billion in annual benefits. Bottom left-hand corner, because I am going to try to touch on a health benefits, the 90,000 asthma attacks prevented daily. And then the household bill savings, the BPU president spoke earlier about the importance in competitiveness and the economic strength for New Jersey. How you choose to comply will have a direct link on how much it costs to comply. That really turns on, to Ken's point, how much energy efficient you do or don't procure on your system.

Again, I'm going to kind of skim

through this slide. You can take a look at it later, but it does have some of the specifics. These are the national benefit numbers. You can see there's some pretty big numbers up there. Again, the bottom number there that I mentioned, $85 savings per household in 2030, was the modeling by EPA. All of these numbers are the modeling from EPA and, again, makes some assumptions on how much energy efficiency penetration we see by 2030.

I'm fairly confident -- I wasn't positive how much of the basic mechanics of the Clean Power Plan were going to be teed up before I spoke, so I included this as some basic background. I'll skim through it very briefly.

Essentially, it's under Section 111(d), as was mentioned by the DEP representative earlier. It's essentially the federal government sets a target and then states a great deal of flexibility in how they set up their structure to meet that target. Or they can choose not to pursue a state plan and have the federal government provide them with a federal implementation plan. That is in accordance with this section of the and Clean Air Act.

Again, I want to skim through this and

just assume that the Council is pretty familiar with structure. But, again, it's just basic background on the structure of how the Clean Power Plan is designed and structured.

I'm going to skip ahead on these. These bullets just kind of lay out the specifics of mass-based versus rate-based approaches, which you're familiar.

This chart is from an EPA resource. It kind of captures the previous bullet slides in a tighter figure. Technically, you've got multiple options, but really it comes into those two buckets of mass or rate choices. And under the mass-based approach, the big question is Section 111(d) covers existing sources, but the EPA has put forward options whereby you could choose to also cover new sources now to avoid market distortions and kind of tee up for the forward-thinking and forward-looking opportunity the State has to kind of capture those.

Another important point here is that all new sources, just like your new car, eventually become old and existing. And so under the Clean Air Act, there is the expectation that you could have a situation where you may have a new source come into the market, assuming the State chooses not to cover

it, and eight, nine, ten years down the road, that now becomes an existing source. How do you incorporate it into your compliance pathway? So that's just one of many, we think, issues and complications that you run into if you don't choose to kind of include new sources from the outset.

Again, a lot of considerations for regulators to think about. But from our perspective, which I'll get into a little bit later, it does make much more sense, we think, to include those new sources from the get-go.

Now we're going to talk about the modeling. Again, I'm not going to spend a ton of time on each individual slide, but there's a ton of different outputs we can go back with as the Council is interested in getting into.

This is my public service announcement on what the IPM modeling is. I'll give you the short version. It is that NRDC, working with a number of partners, including EDF, utility companies, Commission M.J. Bradley. And ICF International is the same modeling consulting firm the did the modeling for EPA. So we essentially contracted with the same shop that did the EPA modeling and use all the same assumptions, built the

model back up from scratch and have the ability to turn dials turn levers to see different compliance pathways and outcomes happen. We did that for the entire country and for 47 states that are complying with the Clean Power Plan, and this is going to be some of specific New Jersey outcomes. Again, that's a much shorter version of what's on the slide.

So these are the scenarios. And again, you can go back and look at these later. I think it's easier to kind of describe the scenarios on each slide because I can point out kind of what each acronym stands for. But essentially there's the Reference Case, which is kind of your BAE of what would happen absent a Clean Power Plan being in place. And then we look at different scenarios, including no energy efficiency, 1 percent levels of energy efficiency, and 2 percent levels of energy efficiency, for example.

As Ken pointed out on his list, the stars of this energy efficiency show, like Massachusetts and Rhode Island, are already pushing 3 percent levels. We're seeing really strong states reach 2 percent. That's kind of like a benchmark as we sit here today. New Jersey is about .7 percent. So there is room to grow there. But that's one of

the key variables that you're going to see.

So we'll just jump right into it. So this is the -- the proposed rule for the Clean Power Plan had a relatively stringent target for New Jersey, I would admit. We think it was achievable but it was fairly tight. The ultimate final rule, frankly, has a very modest target for New Jersey for 2030. And it's imminently achievable and we think conceded, to Ken's point again, that, you know, is the Clean Power Plan laying the foundation or the groundwork? Is it going to have huge benefits nationally, but is it the end all be all that in 2025, will we be far below those emission levels? Probably. If the NOx and SOx regulations of the past two decades are any indication, when we put these regulations forward, we hear the sky is falling, it's going to cost a gazillion dollars to comply. Then it ends of costing a fraction of that level and we over-comply by 10 years ahead of what we're supposed to do. I'm not being flippant there, I just want to point out time and time again, that's been the experience on these sorts of regulations. And I don't think the Clean Power Plan is going to be any different.

So in almost all the cases, you can

see here that we ran, New Jersey power plants emitted below their 2030 limit, going back to the fact that that target is, in fact, fairly modest for New Jersey. And the issue of trading, if you use a mass-based approach that has allowances, there's additional revenue, assuming that you auction allowances or recover that revenue through some other mechanism.

Under the exiting-only approach, not surprisingly, you're going to see emissions be higher for New Jersey. And that means not just for carbon emissions, but also the co-pollutants that goes along with that. I'm going get into that later show how you see significantly higher reductions or greater reductions in SOx and NOx pollutants and also the corresponding health benefits if you cover new sources as opposed to if you don't. So another argument of why covering new sources is going to drive health benefits for New Jersey residents.

Right here, you can see that the fact that the leakage piece -- and Ken touched on it. I'm guessing everybody understands leakage, but just a quick version is that if you don't cover a new source, the idea would be that you'd have this perverse outcome where you would have a combined

cycle natural gas plant, for example, sitting right here. Over across the street there happens to be one that got built after the compliance date. The one over here has to purchase a carbon allowance to comply with the Clean Power Plan, and this one doesn't. And what does that mean from a market perspective? Let's assume a RGGI price of 7 bucks. This guy is bidding into the PGM market at 57 bucks, this guy is bidding in at 50. If the clean air price is 55, this guy doesn't run, and this guy does. And this guy will run even more. Maybe he dispatches and runs even more than he would otherwise because he doesn't have to cover that allowance price, even though the emissions from both of those resources is essentially identical. So you can imagine if you're this guy and you're owned by a different company than this guy, you're probably going to be kind of mad. And I'm sure the DEP is going to hear some of those arguments when they're making their plan. But also from a public health and emissions perspective, the evidence for leakage. So what EPA has done is essentially said, okay, to address that issue around leakage, there's a few options. One, the cleanest one, from our perspective, the cleanest in many ways, is to just

include new sources because then you're obviously not going to have that outcome. The other one they put in their model rule is that you would have a 5 percent set-aside of allowances for renewable energy. The idea being that, well, we'll just set aside 5 percent of those allowances and give them to renewable projects; that will, hopefully, increase renewables at a certain level that would offset that leakage. We have concerns that that might not be sufficient to, in fact, address the problem. And as Ken said, the clarity from EPA right now around what would pass that test, that smell test if you address leakage, is far from clear. So there's a lot of actual regulatory risk, we think, from a state perspective of, you know, do you include new sources or you come up with some plan that you think will cover leakage and then cross your fingers that it will be enough and EPA will bless it. If I'm regulator, I'm thinking through that very seriously before I make that decision. Again, a lot considerations. I'm not saying it's an easy choose, but for me, if I was in the shoes of a regulator drafting my plan, that's a real concern for me, thinking about making sure your plan actually meets the requirement.

Again, these are the different cases. So this is basically business as usual. There's covering the new, existing and new, national trading with the efficiency. National trading with 1 percent efficiency, 2 percent efficiency. You can see the greater efficiency your emissions go down. The existing only goes up. So basically here's existing only, not covering new; all are higher. Here's existing and new covered, emissions go down with efficiency. You reduce demand, you reduce emissions.

Here's the SOx and NOx piece for the public health benefits. These are co-pollutant outcomes. Again, fairly straightforward. You don't cover existing -- if you don't cover new sources, you get more pollution. It's fairly straightforward. You come across, you can see existing and new with a 2 percent efficiency level is the lower amount of both SOx and NOx.

And then the trading actually here is an interesting, too. Obviously, you've heard the priority for the current Administration to increase the amount of instate generation. Trading is going to be an important factor in that. But you can see here from an emissions perspective from NOx and SOx,

this existing and new and included with national trading and 1 percent efficiency, it's significantly lower. This is state-only trading, so plants can trade across plants within the State of New Jersey but not outside the State; lightly higher. And then no trading, higher emissions.

Here's the numbers that I mentioned. This just basically takes those bar charts I just mentioned and quantifies the health benefits that are projected from the different outcomes. You can see the biggest number is that third chart. Include new sources, 2 percent efficiency levels, gives you the large numbers. This is annual number, so in 2030, $118 million in health benefits, 44 million is a low estimate. This is an important footnote. This doesn't include the value of societal cost of carbon reduction. This is purely health benefits from SOx and NOx. This excludes that. It's a pretty conservative number from an overall benefit perspective.

And then this is the savings piece that I mentioned. Again, turns on how much efficiency you have in the system. Two percent levels, you're seeing 18 percent reductions. That's existing and new again with national trading.

Essentially what happens with that trading, as you expand the pool of carbon mitigation options, you reduce compliance costs. It's fairly straightforward economic. So if you're chasing those reductions in only the State of New Jersey, you have a more finite market to pull from. If you're trading across the entire country -- and we have modeled region-specific stuff, too. Obviously, I couldn't -- I've already probably made everybody cross-eyed with all these slides. We have national, we have regional, we have state-only. We have different outputs that we can show you, but the general concept is you reduce compliance costs by trading, you reduce compliance costs when you ramp up efficient. Is kind of the takeaway.

So this last slide, you're, I'm sure, all familiar with, the Regional Gas Initiative Program. But based on our modeling, at end of the day, it's the call of governors and agencies and sometimes legislatures if they're inserting themselves into the process, on what compliance approach is going to be taken by a state. But from our perspective, particularly when you factor in these outputs that we've seen, literally just looking at how much pollution you're getting of

rate-base versus mass-based, including new sources, not including new sources. This is kind of where we see -- and also savings for consumers. So this isn't purely environment, this is the economic outcomes. We think the way to go for New Jersey is the mass-based approach that does cover new sources. The allocation question is critical. It is contention, as Ken said. That's a really important piece to keep in mind. The very basic concept there is that you will see the allowance price of a mass-based approach whether it's RGGI or otherwise. You will see that appear in the price of electricity at PJM, and customers will pay that increased price of electricity. The amount that they actually experience on their bills is entirely contingent upon what the State of New Jersey, or whatever state you're talking about, does with that revenue. If it gives those allowances away to generators for free, those generators still have to include that in their bid. So it will increase electricity prices. And instead of that money being recovered and going back to customers in the form efficiency or rebates or low income programs or whatever, you name it, instead of going into that, it would go into the pockets of those generators as a windfall that they

would experience. So that's really just a clearcut -- it's not philosophical or ideological question, it's just the mechanics of the market.

So basically, regulators have a decision to make. Are you going to give that allowance value to generators and let them pocket it for their investors? Or are you going to recover that value and invest it for public benefit? And that's really what the allocation question comes down to.

And so we've seen that play out in the RGGI experience and in California. In RGGI, you can actually see in the analysis group reports, which are cited at the bottom here, obviously there's no numbers for New Jersey after they left the program, but there was some numbers from before they left the program. There was $151 million of value added to the state economy, 2.9 billion -- this is for the RGGI Program at-large. But if you go down here, of what New Jersey spent at the bottom, that's how they reinvested their revenues, 63 percent on the general fund, 23 percent on renewables, 9 percent on direct bill assistance, and 5 percent on greenhouse gas programs. You have in the Analysis Group report, which you can get that link, the first link is the

2011, so they did like a first three-year look and what the macroeconomic benefits were from that program for the RGGI states. And the second link goes all the say for the second time period, 2012 to 2014. There's a direct correlation between macroeconomic benefits that a state experiences and how much they reinvest in energy efficiency.

I also want to qualify with that, depending on your decisions, from our perspective, any utilization of that money for public benefit, recovering that money for public benefit, is better than having it be a windfall to generators having that allocation. Because we see the value of this allowance is a public good that needs to be reinvested for public benefit. So from a purely analytical standpoint, the best use of that for a consumer impact basically cost savings perspective is to invest in energy efficiency in the electric sector. However, that's, again, a state decision. EPA is not going to care how you spend that money or if you give that money back at all. They're going to care you have your mass-based program, your cap is here, it declines through 2030, you have demonstrated compliance. So another reason why do I go with the federal program, do I go with the state

problem, that's another example. That then becomes an inherently state decision on how you reinvest that value or don't reinvest that value. That's a really important point, too.

I'm going to stop there so I have maybe 1 minute or even 30 seconds for a couple of quick questions. Or do I --

MR. VALERI: We're actually right on time.

MR. MORRIS: Okay.

MR. SVENSON: First of all, thank you very much. I just want to clarify one thing. The charts that are on your presentation, starting with New Jersey's power sector can go beyond its 2030 target. All the subsequent charts are specifically New Jersey?

MR. MORRIS: Yes. Everything is specific to New Jersey. The beginning parts about the benefits are national, but all of these are the specific New Jersey runs in the modeling. Sorry that wasn't clear.

MR. SVENSON: Just one follow-up. So the ideal modeling or the modeling that generated the health benefits and everything else, is that a report? More than slides, is there something that

one can download or get ahold that has to backup to how it got to the specifics?

MR. MORRIS: Yes. So there is M.J. Bradley tool that's New Jersey specific. And also, I forgot to add, this also included the update of including the PTC and the ITC which changed some of the outcomes, but that will be available. I'll follow up. The M.J. Bradley tool can be accessed New Jersey specific. And then we can certainly share and summarize, kind of -- we don't have an existing product for all 47 states. You can imagine that would have been challenging. But we can package that and also share with you guys maybe a more exhaustive list of outputs.

MR. SVENSON: I'm just saying, the health benefits that you cite, it would be very useful to have how did that number get generated.

MR. MORRIS: Got it. Okay.

MR. SVENSON: Specific community benefits, broader trading further reduces NOx, SOx from an Environmental Justice standpoint. How did that really get generated? And is it more located in a particular locale, or is it statewide?

MR. MORRIS: Absolutely.

MR. SVENSON: So that type of

information would be very useful to understand.

MR. MORRIS: Okay. Got it.

MR. VALERI: Thank you.

(Applause.)

MR. VALERI: Our next speaker will be Steve Gabel, President of Gabel Associates. Steve has more than 35 years of experience in assisting clients in strategic energy and environment issues, legislation, regulatory and utility matters. Mr. Gabel founded Gabel Associates in 1993. Prior to that, he had a distinguished public service career. Notably, he was the Director of the Electric Division of New Jersey Board of Public Utilities and also served as the Director of Solid Waste Management in New Jersey Board of Public Utilities in New Jersey DEP.

Steve.

MR. GABEL: Thanks, John.

So I don't have any slides. I'm just going to take a few minutes here and talk about some things, some marketplace realities about the Clean Power Plan that I hope the Council will keep in mind as they go through their deliberations.

Just a couple of things in terms opening warmup here is, first, just by way of

disclosure, one of the clients that we've been very actively involved in here at Gabel Associates is an organization called the Independent Energy Producers of New Jersey. It's a trade association. It represents about 85 percent of the owners of electric generating capacity in the State of New Jersey. And they've, not only on this issue, but over the years have been involved in all sorts of energy and environmental and utility ratemaking issues in the State for 20 years or so. We've, in this context, been very active talking with DEP staff. I've got to give a shout out. The DEP staff has been incredibly thoughtful, available, really thinking through this in a very, very serious way to make this work for the State of New Jersey. So I did want to make sure that most importantly got to you all as you think about this. They are a great resource for you, for everybody in the State.

In terms of what I wanted to talk about today is really to talk about what this plan can mean out in the energy marketplace. When I talk about the energy marketplace, what I mean is the wholesale power generators which are the applicable regulated entities under this proposal. All of them play in the PJM wholesale power markets. And when I

talked in the title about tripwires here, unless you make this thing sensitive, recognize how these wholesale power markets work to these folks who compete every day in these marketplaces, this thing isn't going to work. It's could raise costs, it could defeat the very purpose of what we're all trying to do, which is improve environmental quality.

So that's really what I'm going to touch on today. I'm not going to go through any sort of broad detail review of the regulation or anything like that. I want to make sure, if I can, get an understanding how this thing looks from the window of looking at this from a wholesale power generator that has to comply with this thing.

A couple of general principles I want to get out there in terms of that. And that's that, number one, I think we all have to be flexible. This thing is incredibly fluid right now. I'm not going to go into detail on that. You know what that means. It's legally fluid. You know guys know what's happening in the courts. It's politically fluid because I think the presidential race is going to say a lot about what happens to this regulation and what follows. It's regulatorily -- if that's a

word -- fluid because every State's got a big chunk of decisions they have to make around these regulations. It's technically fluid because there's some things happening in the marketplace right now that can bump this thing one way or the other. So principle number one is, I think, this State Council should be flexible in how they look at this thing because things are changing really day-to-day. You see it in the papers all the time.

Principal number two is just an observation about what's happening in the marketplace. Natural gas, as you know -- and I'm not going to get into detail. I think some other people did. Natural gas is really running the table right now in the power markets, particularly in PJM. There have been about 20,000 megawatts or so of coal retirements since 2012. There's no CPP in place. What happened, gas rally took the ball away from coal, and we're seeing that play out in the marketplace. So that's an important factor. The gas combined cycle units are the ones that are most of the time setting the energy market price. So that's principal number two.

Number three, this thing, this CPP or whatever iteration it turns into, is a great

opportunity for the country and for New Jersey. We think it can really drive cleaner generation, energy efficiency, economic activity that occurs, whether it's new generation or EE down in your basement. All of that equals jobs. And we think this thing, done right, can be a big motivator for all that type of positive environmental and economic activity.

And I would say also that -- and I don't know the makeup of the group, whether you're doubters of climate change or not. To me, regardless of whether that's your belief from a science standpoint, this thing's got a ton of benefit. The last speaker, I think, really put the chart up there and told the story, which is the NOx and SOx reductions that go along with this. Even if you're not a believer in climate change, humans causing climate change, there are substantial benefits because this thing, again, done right -- and I'm going to keep underlining that -- really pushes generators to improve their heat rate.

If you're running a power rate, this heat rate, heat rate, heat rate. That's the conversion. Think about your car, your miles per gallon. The more you can improve that, the lower your emissions across the board. So this thing is a

positive across the board, not just for greenhouse gases, but in many other areas.

Principal four, is this can complement the Energy Master Plan of New Jersey, which you heard about an hour or so ago, and can complement all those important policy goals that are in there. So that's really kind of broadly.

The last principle is that as you think about this, not only think about cost -- a lot of people put costs up on the screen. You've got to think about risk and uncertainty as you're thinking about that. It's not enough to think it. This is one number in a database. You need to think about what the risk of whatever that cost component is of being higher or lower, what the uncertainty is, because the folks who run power plants, the investors who invest in power plants, any sort of uncertainty, I'll tell you how they deal with it because I live it every day, it's called uncertainty equals increase my price. And you don't want to go there. So as you think through this, kind of factor not just cost, but risk and uncertainty into what you do.

I said at the outset that the real issue, the issue I wanted to touch on, was how this

proposal plays into the dynamics of the wholesale power market. PJM has got something called the market monitor, and that market monitor is under FERP (phonetic) jurisdiction to look at the competitiveness of the wholesale power markets. Every year since the market monitor has been around, and I've kind of lost count, but it's at least 10 years, the market monitor finds that the energy markets of PJM are competitive. There's tens of thousands of megawatts, many, many owners, and when you think about competition -- and probably everyone here plays in some sort of competitive play, whether it's in your business or in how you negotiate for wages and salary, everybody plays in competition. In the wholesale power industry, that competition plays out every single morning of every single year. Generators need to put what's called a day ahead offer price into PJM. That's telling PJM, tomorrow I will offer my energy into the market at the following bid prices. And the prices, the offer is either clear because they're below the highest accepted offer price based on the amount of demand expected tomorrow, or they don't clear and they don't run, they're not accepted, and that highest accepted price sets the market clearing price. So

it's a level of competition, I'll say, competition kind of on steroids because it's every day, it's every hour. And, in fact, in real time after the day ahead auction, there's a real time auction to make up the difference between what the expectations were relative to the day before. So a high degree of competition.

In the energy markets, the way this played out, I talked about that market clearing price, economists love to talk about this stuff. It's really what's called a truth revealing bid because the market -- and think about the dynamics of this for a second. The market clears not at what you bid, it clears at what the last accepted generator bid. That incense you as a bidder to put in your lowest clearing price that you would accept. And how do you determine the lowest clearing price you would accept? You think about what are my variable costs. Because that's the dollar I have to spend to generate that megawatt hour. I have to buy fuel. I have to pay variable O and N, the folks in the building who are running the plant. I have to buy NOx allowances that exists in New Jersey. I have to buy other allowances.

You're now introducing in this rule a

new cost factor, the cost of complying with CPP. So that's how that bid price or this program factors into energy prices. And if that number, what are that nut is, they're looking at that just like they looked at what's the cost of a ton of coal or an MMBTU of natural gas. It's a cost element to layer into that bid price.

Why am I getting into level of detail? Number one, it's going to have an impact on the overall prices in New Jersey. I think the last speaker touched on that. But as important, the price for that compliance go back to my risk discussion. If I know what that number is, and I know what the number is for a RGGI allowance right now. You can look it up in the newspaper. If I don't know what I number is or there's uncertainty around that number, it makes compliance much more costly. Risk premiums get dropped into prices. Generators don't quite know how to plan. They don't quite know whether they should make investments in making their power plants cleaner or have a better E grade. So it's very important in the context of this hyper-competition to get this number right to get, as you're sitting there trying to send -- you're trying to send a memo to the generator. You

want that memo to be clear and crisp and tell them what that number is so they can take the action that you want them to take at the end of the day.

The other element of PJM that's important that I want to just touch on is last summer, August of '15, PJM did a redesign of their capacity market. I hate to take a bunch of letters that sound like what we're talking about, but I didn't make them up. The CP product was created, not to confuse it with CPP, but it's Capacity Performance, coming off the cold snap of '13-'14 when the system went right up to the edge because of unavailability of many, many plants. PJM redesigned their capacity system. The capacity system isn't paying people for energy. It's just paying people to be there so that when those cold snaps hit and those hot summer days come and the peaks are going off the screen, we know that we're going to have adequate generation. So it's actually paid in PJM on a fixed payment per megawatt day. And it's a market that's supposed to, as it sounds, induce generators to build new generation; and once having built that generation, to be there when those peak days and peak hours come.

The capacity and performance model,

which is in place now -- generators are living under it now -- greatly increase, not the amount they get paid for their capacity, it greatly increase the amount of penalty they get if they're not there when they should be. There's very little forgiveness in this thing. There's almost no force majeure or outside management control. You've got to make it happen regardless of what's happening in the world around you. And the penalties are significant. Just to kind of give you a sense of scope, the power prices right now are running anywhere from 25, 30, $35 a megawatt hour. The penalty payment under this formula if you fail to deliver during these peak emergency periods runs about $3,200 a megawatt hour. So it's, in many cases, could be if you're not there when they need you, when the grid needs you, it's a bankruptcy-inducing event, or could be. So it's a huge risk. For a 500-megawatt plan, it could be in the neighborhood of $72 million in a year if you don't make it happen.

So I'm bringing this up because generators today are living under this risk. They're managing this risk. They're not running away from it. They understand that's part of their job. But I'm trying to take the CPP and put it in

its this context because it's another risk variable that goes into the equation. And if you want these generators to make the investments, which I think we all want to see to clean things up, you need to recognize these risk elements.

So really what I'm talking about is making the market work to further the policy. One is to get the pricing in place so that it's clear. And if you think about rate-based versus mass-based, mass-based is something we know. We've seen it operate in NOx, we've seen it operate in RGGI. The rate-based is relatively unknown and it will be harder for generators, at least as we stand here today, to understand what that price is.

The second way to use the market, one item of the CPP that I want to call out is something called the Clean Energy Incentive Program. It's a program that allows in the early stages of the CPP to allow for additional credit and investment for renewables and importantly, at least from where I sit, investment in energy efficiency in low income communities. This is a way to really join two very important public policies, which is to make energy efficiency happen more in low income areas and create allowances or create ERCs to help generators

comply. So you're using the market to create more energy efficiency to make it happen in low income. I think that's something that I'd ask the Council to stand behind and support and try and designed the program.

I have a couple of recommendations. One is to have live participation so a lot of folks can play, community groups, utilities, other generators, just other participants in the market. You want to have a nice big playing field so folks can get in and make these happen. You should make it happen both -- allow for it to happen in residential, as well as commercial and nonresidential settings to get as much bang as you can out of these communities.

The reg does not make clear at this point what is a low income community. One suggestion that I make is 15 percent -- I'm sorry. Hold on. Any community that's got 15 percent or more of its residents below the poverty line would be defined into this program.

Sorry I dropped that one.

So I touched on rate-based versus mass. The other issue on rate-based is we need to carefully account -- and I know the DEP is carefully

reviewing this. There are different ways to make ERCs. They can come from renewables, they can come from EEE, they can come from generators themselves. Each one of those has got a lot of uncertainty right now in terms of how much ERC generation will occur. And I think we need to really sharpen the pencil and make sure we get those numbers right, because that will tell the story of whether ERCs and the rate-based program is one issue of whether that program is workable for New Jersey. The other, as I mentioned, is this issue of certainty. We know how allowances function. We don't totally know how an ERC system will function.

So just to sum it up, I think this thing can work in the marketplace as long as you understand and take into account the realities. Costs and risks should be considered and flexibility, at least especially where we are right now in the process, is very important.

Thank you.

MR. VALERI: Thanks, Steve.

Steve, I'm not sure if you will be around.

MR. GABEL: I will not.

MR. VALERI: So just one question

because I'd like to raise it. You mentioned a great point on the issue of certainty, particularly with respect to power plants. Also with respect to renewables, the uncertainty is one of the problems we had in the beginning of the SREC Program, et cetera. We're obviously looking at very specific questions related to the Clean Power Plan. Is there one part of the Clean Power Plan or something that we've raised that maybe scare you or at least that you're most concern about future investments if it were or were not to be implemented? And that may be not something you can answer now, but certainly it's an important question in my mind because at the end of the day, to use the other analogy, where the puck is going to be, we're going to develop things, clean power plan, renewable energy, as well implementing energy efficiency. I would be curious what you think is the one thing that you'd talk about the most.

MR. GABEL: Off the top of my head, I guess the two things I kind of point at without providing an answer right now are, one, this question of mass versus rate approach, and the relative level of risk and uncertainty inside each one of those approaches, number one. And number

two, providing clear forward-looking signal as to how generation will get treated inside the program.

MR. VALERI: Any questions from the Council? I know we're kind of on a schedule, but since Steve's not going to be here.

MR. SVENSON: Just to follow on that last piece, Steve, when you said getting clear direction about how new generation -- does your group IEPNJ, for example, have a preference to whether include new or not to include new?

MR. GABEL: At this point in time because of my first guideline, we're in great deal of flux right now.

MR. SVENSON: Understood.

MR. VALERI: Nicky.

MR. SHEATS: Thank you for mentioning the CIP Program.

Would you favor a similar program for renewables?

MR. GABEL: I would favor that with or without CPP. So how it would factor into and meld into the CPP, I'd have to give some thought to. But in terms of something that provides greater incentive in low income communities, I think should happen. We've looked at things with -- I don't know

if it's strong now, but the market tax credit and things like that to try and drive development in inner city areas is something that we've looked at and used successfully. So the quick answer is yes.

MR. VALERI: Any other questions?

Thank you, Steve. Appreciate it.

(Applause.)

MR. VALERI: Our next speaker is Pam Kiely, Senior Director of Regulatory Strategy of the Environment Defense Fund. She leads work on implementation of Clean Power Plan. Prior to joining EDF, Pam founded PK Strategies and was consulting for a wide range of clients on energy and environmental issues.

Pam.

MS. KIELY: Thank you very much. And thanks to the Council for inviting us all and having me here day.

I'm going to try to do three things in the 15-minute time slot. The first is to highlight some of the sort of CPP 101 issues that I think are important for the Council to consider. I know there's probably quite a base of knowledge that you all have already. I want to pull out some of my take-aways just from the rule itself. Two, I'm

going to spend a little bit of time taking a brief look at the planning time horizon and what are some of the factors we should consider right now, given some of the uncertainty that is surrounding this effort. And then finally, highlight a few things that I'd encourage Council to consider as you move forward with your conversations and as New Jersey moves forward with their planing.

So first, just quickly on the Clean Power Plan itself, the Supreme Court in 2007 affirmed, not only the authority, but also the responsibility to regulate greenhouse gas emissions. And I think that's important to understand that this is not just an opportunity to do so, but it really is a responsibility to do so. So whether these greenhouse gas emissions limits come in the form of the Clean Power Plan or come through other regulations down the road, either for this sector or for other sectors, we believe that we're on the path towards a carbon constrained economy, not just in the power sector, but beyond. And with that, while the Clean Power Plan is groundbreaking -- I think we've heard statistics about what it's doing to the power sector, first ever national emissions on carbon emissions or carbon pollution -- its

structure really does follow the traditional clean air regulatory framework, that framework of cooperative federalism, that partnership with EPA and states that has been reducing emissions of dangerous pollutants for decades.

And the way the Clean Power Plan is going to work, I think we all kind of get these basics, the federal government setting targets, the states are going develop and implement plans in order to ensure that their sources achieve the targets set. States have tremendous flexibility to design really individualized state compliance frameworks to ensure that power plants within their jurisdictions achieve these emission limits. But the important piece, I think, to note here is that that flexibility is provided to them as long as they provide a clear enforceable emissions limit for each regulated power plant in the State. And that way, the Clean Power Plan really at its core a traditional clean air requirement. You've got a power plant, you've got a pollutant, and the that pollutant needs to meet emissions limitation.

And these standards, in short, really do build on America's successful efforts to date to addressing harmful pollution from the power sector.

And these efforts have already made tremendous progress, as the slide represents. And when the Clean Power Plan is fully implemented -- and we've seen numbers already today -- EPA estimates that sulfur dioxide emissions nationally from power plants will be 90 percent lower as compared to 2005 levels, and nitrogen oxide emissions will be 72 percent lower.

It's critical, though, and I think Ken and others have noted this, that states focus on looking at these choices they have before them through an integrated and coordinated multi-pollutant lens in order to ensure that states are seeing the full benefits, not just in carbon emissions but also the NOx and SOx benefits that we all want to see.

Under the Clean Power Plan, EPA is establishing separate national emission standards for two subcategories of fossil fuel generating electric units: The steam units, generally coal or oil fire units, as well as natural gas combined cycle generating units. Under the Clean Air Act, EPA emissions standards reflect what's called the Best System of Emission Reductions, BSER. I'm really exciting that I'm not going to spend too much

time talking about BSER. We've sort of moved beyond that and we're into this implementation conversation. But for those of you have been roaming around talking about the Clean Power Plan for two or three or four years like I have, I'm really happy not to spend too much time talking about it. But it is an important factor here. And I do want to take a moment to talk quickly about emission reduction.

The idea is that the Environment Protection Agency has looked at a system that's been adequately demonstrated, considering costs, energy requirements and other factors. So it figures out how you are best to control the pollutant at hand. The pollutant, obviously, in this case is carbon. So the EPA has applied three building blocks to develop a uniform consistent national emissions rate. Actually, I think this is important because I've heard some comments earlier today about how states were treated relative to other states based on the setting of the standards. And I think the thing that's important to note here is that each state target, the target number you get for a state, the only thing that that target is a function of is how many coal facilities there are in the state and

how many gas facilities. Because at the core of this, EPA has determined a uniform emissions target for every coal plant and a uniform emissions target for every gas plant and applied those targets to each coal plant and each gas plant in the State. So you're State's target is merely a reflection of your relative mix of coal versus gas.

So a state like New Jersey who's made tremendous progress in deployment of renewable energy, also has deployed some DSM, relies on existing zero emission capacity, all of those choices that the State has made, the fact that the State is currently getting electricity from zero and lower emitting resources actually is quite helpful for the State because they have fewer fossil generating units that they have to figure out how to come into compliance with, fewer units on their system where they have to figure out how to bring down the relative emissions rate or to bring under an emissions cap. So I think that's an important point as we think about this moving forward.

Functionally, everything that New Jersey has done has really put it in a good place. There's fewer higher emitting fossil units on the system to deal with. I think Jackson put this slide

up, the compliance options. It's a great slide. Everyone's probably seen this many times. I think the idea behind this slide, though, is EPA really has provided some tremendous flexibility for states to figure out how to come into compliance with this rule. But within that flexibility, it's a two-sided coin. It's both exciting, there's lot to do or a lot of options; and then it also can be a little daunting, as you can see. Even in this chart, there are many compliance paths that the State can go down, and even pathways that are not represented on this chart.

The thing that I want to pull out of here, though, is even in some of the approaches, some of the approaches that EPA has sort of dumped, streamlined, compliance plan pathways, or sort of presumptive approvability aura around them, certain choices have consequences. So, for example, we've got a lot of flexibility. We can take our rate-based emissions limitation and we can translate it into a mass-based goal. That's exciting, but you've got to make sure that the mass-based goal actually drives equivalent emission reductions as you would see under a rate-based program. So if you decide to do a mass-based goal and you only cover

your existing units, you have to make a demonstration to EPA that you are actually achieving emissions reductions that are equivalent with the rate-based BSER. And in that instance you actually free up additional allowances by not covering those new fossil units that are not needed to cover a ramp-up from coal to existing natural gas units. You free up some those allowances. Therefore, you're going to see higher emissions from your coal units under programs that don't total emissions than you would see under a rate-based BSER application of a program. So it's an example of the type of consequence you have with your flexibility. You can do a lot of different things, but you have to make sure the core of it you're actually achieving the level of emission reductions that EPA has laid out. That is emission reductions.

I think one of the best ways that we have under the Clean Power Plan is to be able to actually take advantage of the options that EPA has given us and adopt solutions that maximize the access to low cost compliance choices for sources and also create opportunities to meet and exceed requirements in a manner that works best for the State and works best for the regulated entities in

the State. And one of the best ways to maximize flexibility is to provide for the development and deployment of a plan that can actually best interact with other plans and providing access to compliance instruments. That is kind of wider access so sources have the opportunity to go out and look for carbon emission reductions that can deliver the required emissions reductions at the lowest cost to the system, which is in many ways an exciting opportunity.

In addition, one other potential opportunity for flexibility in this program is taking advantage of the Clean Energy Incentive Program, as was mentioned by the previous speaker, which provides power companies the opportunity to have additional flexibility by seeing the development or the sort of the earning of additional allowances or additional ERCs and bringing those addition credits into the system for focusing on either clean energy deployment near term horizon or investment in income energy efficiency, which is incredibly critical. I'm going to talk a little bit more later if I don't run out of time, which I probably will.

So moving forward full steam ahead on

compliance. This slide tells us a little bit about where we are and where we're going in terms of emission reductions. We've got -- we can see here on the chart the emission reductions contemplated under the Clean Power Plan. We have the black line that's sort of showing us where our CO2 reductions are going and where they would go under sort of a very simple projection of steady change. And then the green line tells us what the economic opportunity is to CO2 reductions from the sector.

So just to put all this in context, we're talking about a relatively reasonable first step here for CO2 reductions. It also allows us to imagine a scenario where moving ahead in this rule, we can be looking at additional reductions from the sector. So as we're thinking about development of a program, let's make sure we're thinking about development of a program that's durable and workable over time, not just in the context of sort of this first step in this first tranche of reductions from this sector, but potentially workable in the next tranche of reductions from sector and next tranche of reductions beyond the power sector.

This slide demonstrates a bit about the power shift that we're seeing. I just like the

graphic. As you can see here, the trend, you see the black is coal generation, beige is natural gas, and as you look towards the end of the chart, what we're seeing in the early part of decade, 2000-2005, we're seeing a huge uptake in, obviously, gas deployment. We're seeing solar and wind and other renewables come on top of that. And that sort of statistics underpinning this slide is fairly straightforward. We've probably all seen these. Renewables have made up 68 percent of all new capacity in 2015. And we're sort of in this moment where a lot of investment being undertaken. There's a shift, sort of tectonic shift that's taking place. The extension of the tax credits for renewable energy will drive a lot of near term clean energy investment and additional emissions reductions. It's an exciting time in the power sector, and it's an important context to keep in mind as we're doing this planning.

And all that leads to what I think is an important consideration for the Council, which is the timely development of a compliance framework. And in our view, there are some clearer damages for you all to consider for power companies in state that submit plans. Really, the expeditious

development and submission of state plans can help provide a clearer framework for power companies, as well as others who are making investments in the power sector, allowing folks to plan their investments in this sort of context of dynamism and transformation of the sector to plan investments for upcoming compliance obligations while maximizing their compliance flexibility. And it allows people to really know the rules of the road, the rules of the game on the front end as they're making decisions today, decisions not just to take advantage of economic opportunities with new resources, but also decisions that are facing people who are dealing with other Clean Air Act compliance obligation and other dynamics that are facing regulated entities.

The timely finalization of state plans also importantly maximizes the opportunities for power companies and other entities to earn early action credits under the Clean Energy Incentive Program. It is worth noting that this program has been finalized and certain elements have been finalized in the federal rule, but there are other elements of the program that are going through an additional review proposal and comment period. And

I actually think we're going to see a new proposal on the CEIP any day now. It just got sent over from EPA to OMB yesterday.

But as it stands today, and we don't expect this to change because it's the languages in the final rule, the Clean Energy Incentive Program Investments are actually triggered off of the submission of your final state plan. So any actions taken after the submission of a final plan can actually earn extra credit and can count for compliance if those actions are driving emission reductions between 2020 and 2022.

This is important because I think particularly when you're talking about investment opportunities for low income energy efficiency, the actual value of an allowance or the value of an ERC, that extra value you might gain with the 2 to 1 compliance credit could actually help tip the balance between whether a company sees that investment in that DSM Program as meeting their cost benefit ratio or not. And the sooner a state has a program in place, the sooner we can start deploying these programs, particularly in low income areas that are helping drive additional efficiency. And that's, I think, an important opportunity for New

Jersey.

Finally, just to put this all in context. I probably should have put this slide up earlier. This is near-term timeline on all this. It tells us sort of where we are in the trajectory. I think the important takeaway here for me is, first of all, there's a lot uncertainty around the litigation timeline, and that's already been highlighted. There's sort of one thing we know. The September 2016 initial plan submission, probably not going to happen. But beyond that, we don't really know. And I think it's important to note -- I think some other speakers have highlighted this -- EPA has provided a really tremendously long ramp-in to the start date for compliance obligations in 2022. So it is certainly reasonable to imagine a world where even if the litigation runs through 2017, planning submission deadlines are pushed back a little. That initial compliance deadline really might not change. And that sort of leads me to one of my takeaway points here, which is as a state there's an opportunity here to provide sort of a certainty and the rules of the road for all of those who are providing investments in the power sector on the front end. So they can be ready for that 2022

start date on the back end.

Let's see. So as such -- I have no idea how over time I am -- states moving forward. And I think states are moving forward for a number of reasons, not wanting to be caught flatfooted, when the DC Circuit upholds the rule or ultimately we've got a Clean Power Plan at the end of all this. They're moving forward because they're facing complementary or additional Clean Air Act obligations and planning makes sense to do on a broader context where they're imagining what their CO2 obligation would look like at the same time.

States are moving forward because it's clear that enforceable carbon limits are here so they should plan for them and actually figure out whether they're going to enforce those limits, how they're going to enforce limits.

And finally, states are moving forward because the power sectors are just in a tremendous transition. There's big opportunities here to ensure that investment decisions are the right ones that take under consideration the likelihood of carbon constraint and what form that carbon constraint might ultimately.

So at its core, the Clean Power Plan

is a regulatory architecture, it's an Clean Air Act regulatory architecture. The way the emissions limit may have been set may be different, but the actual emissions limitation that each facility has to meet is very similar in nature to traditional emissions limitations that power plants have been faced with and have met successfully in the past.

The core choice facing state regulators is whether or not you're going to have an emissions limitation that is representative of rate-based form or a mass-based form. And then there's sort of a series of binary choices thereafter. There aren't that many, and the architecture of this can come together fairly quickly. And beginning to provide some clarity around the core direction that the State is going to head can help to develop some uncertainty in, I think, what we all would recognize as a fairly uncertain world. And the sooner you're sort of ready to pivot and submit, the earlier you will be able to really provide that certainty for those that need it.

So in conclusion, I sort of highlight four issues that I think it would be helpful for New Jersey to consider. So first is how quickly this

issue -- how quickly does New Jersey want to provide these rules of the road that the State would be operating under and how much clarity they want to offer those who are making investments in the power sector.

The second issue would be how much flexibility does the State want to provide to sources to be able to maximize emissions reductions at the lowest cost. And I think this has been noted before, but in this frame, it's worth noting that mass-based programs are far more likely to be compatible with programs across the county and more compatible and more consistent with long-term signals to cut program cross-sectors.

The third thing I'd urge the Council and New Jersey to consider is does the State want a clear, uniform, consistent investment signal right off the bat, going into the power market. And I think our last speaker alluded to this a little bit. Do you want to start off with just a segment of the power sector experience a carbon price, or do you want to go in and say every single generating unit is going to face an obligation around carbon? And that's, in many ways, this question about whether you're covering all of sources or just a segment of

your sources.

And then finally, I would urge the State to consider how does New Jersey want to use the Clean Power Plan to provide opportunities for those who most need to benefit from this transition that's underway in the sector. And there's sort of three big things here. The CEIP provides an exiting opportunity to help to start to change the economics for investments in design side management programs among communities. And on top of that, New Jersey and really states across the country have an opportunity to approach major capital investments right now through the lens of an integrated and protected multi-pollutant lens. EPA'S framework provides and enables the meaningful and highly cost effective cuts in carbon pollution, also ensuring that we're also providing healthier air for communities that have long been afflicted by air pollution. And it's up to states to take advantage of this opportunity. And I think Ken has teed up this whole issue very well.

So with that, I don't think I have enough for questions. Sorry.

(Applause.)

MR. VALERI: Our final speaker for the

morning is Dave Forsyth, Regional Energy Manager for Gerdau Long Steel North America. Dave is responsible for securing competitive arrangements for the supply of electricity and natural gas necessary to meet the energy requirements of seven of Gerdau's North American steel operations. He's a power engineer with a wide range of experience representing large consumer interests in industry stakeholder forums related to natural gas and electricity.

Dave.

MR. FORSYTH: Thanks, John. And thanks, members of Counsel, for allowing us to speak to us today. It's a great opportunity for us. We're very concerned about the competitiveness issue here in New Jersey and heard that there's been a lot of discussion about the competitiveness, and so I want to give you a little bit of a background on Gerdau first just so you have an idea of why we're concerned. I think this will help you understand our concerns.

We have an annual manufacturing capacity of over 11 million tons of finished steel in North America. We have approximately 9,000 people in the United States and Canada, 29 US states

we have plants and there were some downstream operations, and 2 Canadian provinces. Our revenue in 2014 was 6.8 million. It's a big company.

These are where the plants are located in North America. You can see that most of our plants are down the eastern side of the United States. We have one lone plant in California, Rancho Cucamonga. It's the last remaining steel plant in California, and they're subject to the WCI right now.

One of the things that's important here is these plants complete against each other for dispatch of production and also for capital investment. Here in New Jersey we have plant a in Sayreville. And the Sayreville plant, it has mill shop capacity for 800,000 tons per year of product. This year we're going produce probably about 44 percent of that. The markets are very tight. There's a lot of competition. There's 213 employees of that plant right now. And according to studies that have been done for every job at a steel plant, there's seven spinoff jobs in the local economy. So that means that there's about somewhere around 1500 families that rely on that plant existing. Total wages and benefits directly from the plant is almost

$24 million; property taxes, three quarters of a million dollars; and Capex approved from 2015 to 2018 is worth $10 million. And since 1990, we've invested $126 million in that facility.

And what's important here is they reproduced rebar. That's all they produce there, different sizes, from stuff the size of your baby finger to your big toe. Big stuff that's used in bridges, buildings, you see it all over. If you see the green rebar, hopefully that's ours. If you sticking it out of a bridge because we have epoxy coating plant at the plant that the plant also that does that, and that's for when you're near a wet situation.

So it's a lot of competition. The imports of rebar in the US last year were up 40 percent from the year before to 1.82 million tons. And 1.47 million tons of that came from Turkey. And we don't think that they have a Clean Power Plan.

This is our commitment to the efficiency and the environment. In 2012, the DOE completed a study that concluded that the US steel industry is the most efficient globally. This is important because we all use the same technology in the United States pretty well, different variances

of how efficient we are. That plant is very efficient. We spend a lot of money there. And not only are they efficient directly in how they work, but as you heard here already today, the electricity that we consume at the plant, it's very clean also, the cleanest in North America. So it really puts us to the top of chain for being energy efficient.

We produce our steel using electric arc furnish, so it's scrap metal is what we start with. It's almost a hundred percent scrap and then there's some alloys put in there to give us a recipe. So when you take your car to the junk yard, your fridge, your freezer, your washer, your dryer, it ends up getting shredded, sent over to us, and we make something good out of it. So it's good, part of the circular economy kind of idea, too, where your old car ends up being part of a bridge you're going to drive over with your new car.

This is another thing, too, that's important is by us recycling this, it doesn't end up going back into a scrap heap somewhere, just a landfill. It's actually used into a good product. And we have a team of energy and technology specialist and we share best practices across the cooperation. It's a big deal for us. We're always

competing for -- we have KPIs that are on energy efficiency across all the plants. Our employees are marked on that, actually.

We are also one the utility's largest customers typically, with connected loads sometimes of up to 200 megawatts in a plant at some of our bigger plants. Here in Jersey, we have 65 megawatt, that's what our peak would be, but that's never during a peak. It's an off peak. During the CP or during any high low day, our peak is about 2 megawatts. We take the plant down to avoid the peaks. We're very good at that. We participate in all the command response programs. If there's a program out there, we're in it. If there isn't one, we're trying to develop it. So we're working with the Board of Public Utilities to try to develop programs to keep cost down. Those costs end up staying down for all ratepayers, not just us.

I'm not going to try to tell the Council or the State what plan they should go with, which option, the rate-base, mass-based. We just think that they have a choice, and first they should ask for a two-year extension of plan. That's going to give us time to see what the other states are doing. Let's not -- like I heard today, let's not

get the cart before the horse. Let's see what's happening with the other states before we do anything. And then the modeling should be done on all scenarios, multiple scenarios, to achieve lowest cost outcome for ratepayers. We think that's very important. The lowest cost for ratepayers is what we should be focused on, not just the lowest cost for a utility. It's ratepayers. Those are the ones who are going to pay for this, they're the ones who are going to feel the pain.

Modeling should be thorough and consider the effect of the CO2 allowance cost on the price of power. We heard earlier today -- I think Jackson was talking about how the price -- different generators running based on what their carbon price is. One of the issues that we're very concerned about is if we have $5 megawatt hour added cost onto a gas plant, we're going to pay that $5 to all the generators who are online at that time. So we're going to have maybe 5,000 megawatts of nuclear power that could be online. We're going to throw $5 megawatts hours at them for doing nothing. They're doing it now. We're just going give them the money. What's going to happen is all of this money -- this is money that's not going to be recycled back into

the ratepayers, it's going to be a windfall profit to shareholders. That's something that should be really looked at closely.

Back in, I think it was 2009, Sonny Boboski (phonetic) was a ratepayer advocate for Pennsylvania. He testified before a congressional committee on this, and he was -- in his testimony, this was for all of PGN, it wasn't for New Jersey. But a $20 per ton cost of carbon, we would end up spending actually $800 a ton in the market. That was just because of the multiples of how much money we would throw at the other generators, so it's a bit concern. It wouldn't be nearly in bad in New Jersey, because New Jersey doesn't have as much coal. It's a very small amount now. But we still have a lot of gas. So something we should be concerned about.

We should also be concerned about the cost of infrastructure upgrades. This is going be a big cost we're going to see in the market. Pipelines, transmission for new renewables, and this is where the BPU has to stay involved. They have to be on top have this. We can't just have a plan that imposes new pipelines be built without them getting involved in it and what the costs are going to be.

We think that it's very important that they're involved in this. And PJM's modeling results, we should wait for those before we do anything. I know they're coming soon and I don't think New Jersey is going to do anything before, but they're going to be doing some extensive modeling and that should be considered also.

I think I skipped one there. The trading allowances, that should be another consideration that we should make sure if we're going to go to a mass-based, let's make sure that we can trade with other states.

Now, leakage. This is something that there has been a lot of talk about leakage. And leakage was a term used that was used back in 2009 extensively to deal with -- Markey Waxman was talking about the leakage of industry. Now they're using for leakage of emissions across borders based on the new versus the existing generation units. But what they're missing now is the discussion of leakage to the industrial sector.

Any industrial like us that manufactures commodity type product, we're unable to pass those costs through. Those are global prices. They're moving up and down all the time. We can't

pass them through, so if when we have an added cost, they don't go through to the customer. Those costs are imposed on us, they are out of state, or even worse our competitors from offshore, if they don't have those costs, then they're going to have an ability to lower the cost beyond what we can do. We'll lose jobs. They'll either move out of the state or they'll move out of the country. They won't move to our plants. They'll end up moving to China, Turkey, somewhere elsewhere where they can do it. That ends up being a lose-lose for the environment and the economy, because as we talked earlier, we want to make steel here. We're clean. We make it efficiently. We have the cleanest power sector or one of the power sectors in the world. Why would we would to ship that steel to Turkey? So even think about it. If most of the scrap is generated in North America or Europe, but most of it here, and what's happening is a ship comes over here with a load of rebar, picks up a load of scrap, transports it half around the world where they turn it back into rebar with coal, oil, some natural gas, ship it back over here. Imagine the emissions associated with that, just because we have a higher cost and we can't compete with them anymore.

So all rating we're seeing percent of steel consumed in this country being imported, and it's a huge impact here on the East Coast because that Turkish steel, the 1.47 million tons, that's not going to the West Coast, it's coming into the East Coast.

Mitigation of leakage. In California, leakage was identified as an issue and protection for EITE industrials was implemented. EITE is Energy Intense Trade Exposed. That's a term that's been used. Lots of people use that time. It's easy to understand. The Energy Intensive is somebody who uses a lot of energy to make their product, and that's us. Like I said before, we're using 65 megawatts of power when we're running. Trade exposed is anybody who does have commodity type product at CMS. And we talked about that 30 percent of profit margin already is from offshore.

And what they've done in California, revenue from the auction of allowances is return to EITE customers first to offset their cost increases. And what they've done is the allowances were given free to the LSEs or the utilities, actually, and they auctioned those allowances off and then the first revenue goes back to the EITE customers to

offset what their costs are and then the rest go to the benefit, much like Jackson was saying we should put that back to benefit all ratepayers.

In the American Clean Energy and Security Act of 2009, Waxman-Markey, they identified leakage as an issue and they were addressing it. Duke University, Nicolas Institute, recently published a Working Paper on options and they suggested states could grant allowances to EITE industry designed to offset the program costs. So this is not a new concept that we're trying to bring towards here.

And these are the recommendations that we'd like to make. New Jersey should request a two-year extension for submitting a final plan. They should develop a State implementation plan that results in the lowest option for ratepayers. Design a plan that doesn't adversely affect local industry's ability to compete in domestic and international markets. And the protection we just talked for EITE industry. And it should recognize that leakage will increase global emissions and negate efforts made in the State to be a global leader in climate change.

We think that's really important.

That's something that's being lost. If we have clean steelmaking here, then we should want to make it here. And it is.

Thank you.

(Applause.)

MR. VALERI: So we are at the end of our speakers for the morning. We will be back at 12:40. We're taking a lunch break now. We'll continue with our speakers up until our discussion and general public comment. So we will be back at 12:40.

(Luncheon break.)

MR. VALERI: We'll proceed to the afternoon part of our meeting. Our next speaker is Doug O'Malley from Environment New Jersey. Doug has worked on a broad array of environmental issues over the last 15 years in Trenton. As a clean water advocate, he's ran successful campaigns to protect some of the State's largest reservoirs and rivers from development close to their banks and directed citizen outreach offices. He's worked and a variety of environment and energy issues on behalf of environmental causes.

And to keep us moving, I'll turn it right over to Doug.

MR. O'MALLEY: Thank you.

First off, I just wanted to say I'm very exciting to talk to you right after lunch. I'll try to keep it interesting so that we don't have any naps.

But I guess I really wanted to start off just by thanking certainly the members of Clean Air Council for dedicating today's presentation to Clean Power Plan and its implementation and then also to the members and other presenters, some who came a lot farther than just New Jersey, from DC and from, I think, a lot farther away from that. And then obviously finally a thanks to the DEP staff that's already started to work on these issues.

I wanted to start off just by referencing some of the uncertainties that we see in the implementation for the Clean Power Plan. And Steve referenced this and some of other speakers referenced this as well. There are, in many ways, a lot of wild cards, the biggest, of course, being the presidential election and obviously the implementation from a President Trump versus President Clinton would presumably be a very different story. But the other clear story here, too, as the Governor references yesterday, the

Administration and the Governor has 19 months left in office. We've seen on the federal level the transition time isn't very long. And so clearly we can't assume for a new Administration that we're going to have an eight-week period to entirely turn over planning. So clearly, getting started to work on the implementation of the Clean Power Plan is smart. And obviously, there's the X wild card fashion of the stay. I'm certainly not a judicial expert, but I do want to note certainly that folks who are more familiar with judicial processes have said, one, we're going to see a next better process and see a resolution on the stay sometime next year and that it's a truly extraordinary measure taken by the Court to stay in the current program of this size and complexity.

So the focus of the presentation that I want to talk about, it really is forward-looking. And it's forward-looking on a couple of factors. One, it's forward-looking in the sense of looking not only at the Clean Power Plan and implementing here in New Jersey, but looking really at the Clean Power Plan as a floor and not a ceiling. And specifically, to include in the implementation of the Clean Power Plan progressive goals of the Global

Warming Response Act, which was put into place and signed by the Legislature and Governor Corzine in 2007. Those goals of an 80 percent reduction by 2050, obviously, are a longer timeline than Clean Power Plan's 2030 timeline and are going really force the State of New Jersey to put forward aggressive strategies to reduce our carbon emissions in the coming decades.

Obviously, the Clean Power Plan gives us a jump start on that process but we, quite frankly, should see the Clean Power Plan as a starting block, not as an end point. And that certainly is also -- the other continuum here is not only on a national level but on an international level. The Paris Climate talks and Treaty was just signed last Friday obviously is another component that needs to be considered as we discuss moving forward on climate change here in the State.

So let me just talk very briefly about health benefits. We've obviously heard a lot about the health benefits. I do want to emphasize kind of, I guess, the local angle here on the impacts of climate change here in the New Jersey. The Clean Air Council -- I would be remiss to say that the Clean Air Council has done an extraordinary job

since its existence and certainly in the last 20 years of looking at the impact of air pollution on vulnerable communities all around the State.

And I think it's important to note that when President Obama announced the Clean Power Plan and finalized it and then subsequently finalized it this summer, he did it with the American Lung Association. And American Lung Association, obviously no stranger to the Clean Air Council, just came out with the its latest air report for the state, again, showing 800,000 people in the State suffer from asthma. The American Lung Association, obviously, does not in that report look at what will happen in the future, but we've seen clearly from climate scientists, including those at Rutgers, projections of what heat islands will look like in New Jersey over the course of the next 35 years and specifically what those heat islands in our urban cities will look like in places like Newark and Trenton and Camden will look like for the number of 90-degree days over the course of the summertime. And some of Rutgers climate projections look at a tripling of the number of 90-degree days in our urban areas. Obviously, those are the days that are red alert days for the most vulnerable in

the population, especially the elderly and the young, but separate from asthma.

The numbers here, I just want to emphasize one that's up on the slide. For every dollar invested in clean air from Clean Power Plan compliance, families receive $7 benefit in health. And I think that needs to be a critical component as the Clean Air Council comes up with its recommendations. Climate really is about health, and the Clean Power Plan is ultimately about reducing carbon, but it's about increasing the health and stability of every population here in the State.

Clearly, one of the other key aspects of my presentation is not only -- it's kind of how. How do we go beyond just the floor of the Clean Power Plan? And to be able to expand and comply with the Clean Power Plan, I think it is wise for New Jersey to look at groundwork that has been laid in more than a decade ago in the Northeast region with the Regional Greenhouse Gas Initiative. And really in many ways RGGI provided a groundwork for the Clean Power Plan, and it was enacted really in the days of inaction on climate during the Bush Administration. You had Republican governors in New

York, George Pataki, and Mitt Romney at that point in Massachusetts, as well as the New Jersey DEP, work to create the regional greenhouse gas program, starting in 2005. But Legislature passed the legislation late 2008 and then the program started in 2009. Clearly, this is a framework that New Jersey should look at. And the reason, I think, is pretty obvious. RGGI has gotten stronger in the last five years since New Jersey pulled out of the program. And specifically, we've seen carbon emissions decrease across the Northeast, as well as providing economic benefits.

And this is a graph provided by our good friends at the Acadia Center, formally Environment Northeast. I think the graph clearly shows the radical change in emissions that we've seen over the course of the last decade. And that reflection, of course, is seen in the RGGI Program which reduced its cap in 2014 to be a much more aggressive cap, although I think there's a stakeholder process which I'll talk about later that's going on right now to reduce the cap even further.

One of the critical aspects here is that there are many reason why carbon emissions have

gone down. It's important to note that RGGI wasn't kind of just a free rider in this process. Analysis from Duke University showed that RGGI increased production admissions by up to 20 percent, and that's, quite frankly, with a cap, as we can all see, that really was extraordinarily high for the amount of reductions that we ultimately saw.

In terms of its impact here in New Jersey, and we did have -- Jackson kind of referenced some of the importance of the allegation dollars. RGGI is a program that has worked in the region. And obviously, even when RGGI was in place here in New Jersey, 63 percent of the funding went to the general fund. So it was not going as the program intended to focus on energy efficiency programs that reduced the amount of carbon. That being said, even at that point RGGI did have a benefit for the State and, again, an analysis that we released jointly with Environment Northeast, Environment New Jersey a year and a half ago showed what New Jersey is losing by not being in the program, specifically, the revenue that can be dedicated towards clean energy and energy efficiency dollars.

It's also important, too, to note that

the benefit of RGGI is not just on carbon reductions, but also in the cut on electricity prices by 8 percent and then the saving ultimately, the long-term savings on energy bills of $1.8 billion. And this kind of gets at the ultimate promise of the Clean Power Plan, which is not only we're talking about reductions in carbon, but ultimately with more investment through the building blocks of energy efficiency and clean energy, we can see savings for consumers in the long-term, as well as the obvious carbon benefits which are so critical for the State and for all of our states.

In terms of kind of ease of compliance, I think it's important to note, as I noted previously and as I'll talk about a little bit, that the program has gotten stronger. So if New Jersey is looking -- there's no, obviously, silver bullet in compliance with the Clean Power Plan, but if New Jersey is looking at kind of the easiest way to go the farthest, rejoining the regional greenhouse gas program has to be at the top of the list.

And I want to say, too, that we did see the requirement for the State be reduced from 43 percent to roughly a quarter. You know, that, as

I said before, that really should be seen as a floor and not a ceiling. And the promise of RGGI -- and I'll touch on this in a little bit. The promise of RGGI is not just up until 2020, but ultimately it will be to 2030 and 2050 as a program that can help to move, not only the State, but also the region forward.

One of the arguments that's brought up and kind of why we need to do this, I'm not going to belabor this point. I thought Jackson's analysis, especially the business as usual forecast of M.J. Bradley & Associates goes into extensive detail on this, but we are seeing an increase in carbon emissions in the State. We obviously saw a reduction, partially related to recession. But we are, obviously, starting to see an increase in carbon emissions in 2014 that included 70 percent increase from the power plant sector. I think it's incredibly important to note that we're not -- business as usual is not just a flat line. New Jersey, as President Mroz talked extensively, is investing in tremendous infrastructure on gas pipelines and gas power plants. And that ultimately, you know, we will increase our carbon emissions here in the State, especially with the --

not only -- we're not just talking about replacement of facilities, but the construction of entirely new facilities around the State. So I think that has to be kind of a critical part of this conversation is that we're not just talking about holding the line here, but implementing the Clean Power Plan is about clear reductions and ensuring that we don't see an increase in carbon.

I think its obviously incredibly important to be learning from our neighbors. And this is, I think, obviously, the promise of a regional program, even though New Jersey is not a part of it, the program has gotten stronger and other states have moved forward, including some of our closest neighbors, specifically, New York, which under Governor Cuomo just increased its RPS to 50 percent standard by 2030. And their Energy Master Plan calls for 40 percent reductions in carbon as well.

Maryland nearly a month ago under Governor Hogan signed into law a carbon emissions economy-wide cap of 40 percent below 2006 levels by 2030, which, again, is part of the strategy to meet their 2050 goals. And I think that's one the lessons that as we look at our neighboring states,

other states are moving aggressively to hit their 2050 goals and are using Clean Power Plan compliance to help them to do that. New Jersey needs to follow that lead. And obviously, some of that component needs to happen in the Legislature. We've already seen some movement there. The State Senate passed legislation to have 80 percent of our energy come from clean renewable sources by 2050. The Assembly is still not acted. So clearly there's some legislative action. Clearly it will be a need to have much more.

Also, kind of important to note here is that you have Governors of six New England states, including Governor Baker in Massachusetts, that have joined together as part of the Under 2 MOU. And the Under 2 MOU is a reference, of course, to the need to keep global temperatures from increasing more than 2 degrees Celsius. And that compact is looking at overall emissions reductions anywhere from 35 to 45 percent 2030.

Clearly, from a certainty perspective, from a planning perspective, you can't start working to reduce our carbon pollution at even in certainly 2025 or even 2020. This is the moment. And the Clean Power Plan, even if it didn't exist, we would

need to be doing this. And obviously, by implementing the Clean Power Plan sooner rather than later and planning for it to be in effect is certainly the appropriate planning level, especially looking at what our neighbors have done.

I'm not going to go too more into details on the strength of RGGI, but I do want to thank the research of our colleagues at the Arcadia Center. They've really done some incredible research looking at the benefits in the region from the RGGI Program. And I think if we looked at where the program was five years ago and where it is now, it's a drastically stronger program and it's a program that's getting stronger as we speak. They're going through quadrennial review, looking at ways to expand the program and to tighten its cap further.

And I do want to emphasize here, too, the Arcadia Center has looked at the economic benefits. And this really echoes the independent analysis that we saw in 2011 and 2012 from the Analysis Group. Again, a report that Jackson referenced. The Analysis Group also updated their report for RGGI recently. So you have multiple independent arbiters that are looking at this

program as a successful program for the Northeast. New Jersey, obviously, would be wise to rejoin.

As I mentioned before, the early success of the RGGI program has been eclipsed by the successes we've seen over the last few years. It shouldn't be discounted, though, that even when New Jersey was part of RGGI, even when you had 62 percent of the allowances going towards the general fund, you did have a benefit. This data is from when New Jersey was still in the program from a report, Double Success, we released close to three years ago. And you can see the clear benefit across the board in total emissions per capita, carbon intensity and also an increase in GEP.

This is kind of a good graph for describing what I've been talking about. You can kind of see the original emissions cap. It was incredibly elevated. The new cap, again, is a kind of gradual decrease. And that's, I guess, the strength of a program like RGGI is you're not talking about market revolution overnight, you're not talking about kind of turning off a power plants overnight, but you are talking about slowly incentivizing clean energy and deincetivizing fossil fuels.

This is the process that I've been referring to, the Quadrennial RGGI Program Review. There's actually a stakeholder meeting occurring in Boston merely as we speak looking at extending program and aligning the RGGI cap with a long-term trajectory of 90 percent reduction by 2050. Again, in line with what we've seen from our northeast neighbors. A majority, as I referenced before, of RGGI states are part Under 2 MOU. We should look at the success of states, especially New York, in using RGGI revenue for energy efficiency benefits.

This is just a quick analysis of the RGGI cap versus the Clean Power Plan. Even as it stands right now, the RGGI cap would go farther than the Clean Power Plan. And, really, that's what we do need to be seeing here in New Jersey.

I do want to leave time just to kind of talk -- and this will be a theme for some of what the next speaker Nicky Sheats will discuss. I do want to talk a little bit about the path forward on renewables. And we've seen tremendous growth within the renewable sector. Most recently, the out-casing of renewables, out-casing of the insulation of renewables versus traditional fossil fuels. We've seen costs in some parts of the nation, true costs

and competitiveness. And we've also seen trajectories on how we can move all states in this country to a hundred percent renewable by 2050. This is a reference from the study by Mark Jacobson from Stanford University, looking at how New Jersey can ultimately get to a hundred percent renewable.

It's slightly cut off here, but I do want to reference the importance of offshore wind, which we have not really heard a lot about today. Offshore wind is key for New Jersey to be able to hit its RPS. It's certainly key from a Clean Power Plan implementation process and provides tremendous promise, not just for New Jersey but for all of our Mid-Atlantic neighbors, as well as, obviously, a mass penetration of solar both on rooftops, as well as larger PV plants.

And then I just want to talk briefly -- and this will be the focus of Nicky's presentation -- but the importance of having Environmental Justice as part of the Clean Power Plan implementation, and the Environmental Justice advocates across this country should deserve a ton of credit because the initial draft of the Clean Power Plan really did not acknowledge Environmental Justice. The finalized plan does a better job. But

for implementing here in New Jersey, we need to be looking at the cumulative impacts of Environment Justice neighborhoods.

This is a slide directly from Nicky, looking at the correlation between cumulative impacts, race, and income. And as you can see, it's a pretty clear correlation. And how that should play out -- and again, these are comments that I think Nicky would echo -- is that we obviously need a clean energy incentive program. All states should adopt it. We also should see a renewable incentive program. And we need to ensure that we're getting the benefit of specifically of energy efficiency within Environmental Justice neighborhoods and that we're not kind of canceling out those benefits. We need to ensure that we're seeing true reductions within Environmental Justice neighborhoods and using the clean energy incentive program as a way to invest in EJ neighborhoods with energy efficiency.

And then the last thought here, of course, is the Clean Energy Fund and RGGI funds can also go to focus on energy efficiency around the State, including EJ neighborhoods.

So I believe I'm out of time. So I'll wrap up so we stay on time.

MR. VALERI: Thanks.

(Applause.)

MR. VALERI: You said renewable in 2050. I'm just curious. It didn't look like it was adding up.

MR. O'MALLEY: It doesn't add up because the primary solution -- I apologize. I'm glad you caught this because it's a big number that's missing here. Jacobson's study really focuses on the potential for offshore wind, and specifically, 55 percent of New Jersey's energy could come from offshore wind sources. I think that's a testament to the fact that over the next 35-plus years, but even more a shorter timeline, the development of offshore wind in New Jersey needs to be a critical solution, and Jacobson's study reaffirms the amount of renewal energy that offshore wind can provide for the State.

MR. VALERI: Okay. Very good. Thanks, Doug.

Our next and final speaker is our own Nicky Sheats. Dr. Sheats is currently the Director for the Center for the Urban Environment of the John S. Watson Institute for Public Policy here at Thomas Edison College, our host. A primary mission of the

Center has been to provide support for the EJ community on both the state and national level. Without getting into a large part of his bio, Dr. Sheats has been very involved with the EPA nationally on the development of the Clean Power Plan.

And without further ado, Dr. Sheats.

DR. SHEATS: Thanks a lot, John. Thanks to the Council for letting me speak, against their better judgment.

I have to say this first. As John said, we work very closely with the EPA on the development of the Clean Power Plan. How can I put this? It was a little bit of an adversarial relationship. Originally, the Clean Power Plan had no EJ in it. And we basically pissed a fit, EJ communities across the country, and got some EJ in it. But as you will see even though -- it puts us in a tough position. Even though we really won an aggressive fight against climate change, we don't agree with the way the Clean Power Plan is going about it. But let me tell you what we do want as opposed to telling you what we don't want.

So here's a general premise I'll start with. Climate change mitigation policies should

produce emissions reductions for EJ communities. And I have to take a step back even further. Climate change mitigation policy should incorporate equity in Environmental Justice as an integral part. One part of that is making sure that mitigation policy -- here we're talking about the Clean Power Plan -- will produce emissions reductions in EJ communities.

Now, here's what we really want. This is a more detailed premise. Guaranteed emissions reductions in and near EJ communities, preferably with greenhouse gas co-pollutants reductions intentionally maximized, but reductions either way. Okay, what does all that mean?

Well, people have talked about co-pollutants already. Power plants emit greenhouse gases, and along with that, they emit these other pollutants that harm health on a local level. Greenhouse gas co-pollutants. The one we typically most worry about in particulate matter in precursors is sulfur dioxide and nitrogen oxide. Ideally, what we would want is for climate change mitigation policy to have a greenhouse gas goal for reductions. The Clean Power Plan is supposed deliver 32 percent reduction in the greenhouse gasses. Have that as a

goal almost as a constraint. And then within that constraint, develop strategies that intentionally maximize through reduction of co-pollutants like particulate matter. Because then you're going to fight climate change, but you're also going to get local -- you're maximizing the benefit to local health.

Well, the Clean Power Plan doesn't intentionally maximize co-pollutant reduction. In fact, no climate change policy that I'm aware of does that. But the second best thing -- and we would want those reductions in the EJ communities, because I'm going to argue to you that EJ communities need them the most. But the next best thing if you don't have intentionally maximized co-pollutant reduction is to make sure that you have greenhouse gas reductions in EJ communities from the Clean Power Plan, because you're going to get incidental co-pollutant reduction. Co-pollutant reductions is going to go along with the reductions in greenhouse gases. And the previous speakers have said EPA is tallying these reductions, actually; 25 percent reduction of co-pollutants. And I'll tell you a problem with that in a minute or what's missing from that.

Why are we focused on particulate matter? Well, particulate matter has been estimated to cause 200,000 premature deaths in the country every year. Let me say that again. 200,000 premature deaths in the country every year. Concentrations tend to be highest in EJ communities. When I say EJ communities, I mean communities of color and low income communities. So particulate matter air pollution and air pollution in general is an EJ problem.

Here is a slide that shows you the co-pollutants that will come from or at maximum levels. This is a permit from the new plant that is -- Bill, help me out. Is about to operate in Newark or is operating already in Newark?

BILL: It's been operating for a year.

DR. SHEATS: My goodness. Where have we been?

It's operating in Newark. And I just want you to see, this is natural gas combined cycle plant, state-of-the-art, cleanest we have, and has over 2 million pounds permissible co-pollutant emissions every year. And this is in an EJ neighborhood. This is in Newark in the Ironbound community of Newark where DEP recognizes that I

think the exact word -- well, I won't say exact words, but disproportionately impact by multiple source pollution. And the reason I want to show you the co-pollutants attached to that plant. And one of the reasons I want to show that to you is because in the preamble to the federal plan, EPA kind of intimated that co-pollutant production from natural gas plants is negligible. If you're living in the Ironbound or in Newark and this plant can possibly put out 2 million pounds of co-pollutants every year, that's not negligible; 97 tons of just PM2.5 alone.

So from a EJ perspective -- it should from any perspective, but especially from a EJ perspective, here's an opportunity that the Clean Power Plan presents. It presents an opportunity to drive down concentrations of co-pollutants, think particulate matter, to levels we've not been able to attain by just using other sections of the Clean Air Act. Other sections of the Clean Air Act address the co-pollutants, address particulate matter, but if you use the Clean Power Plan in conjunction with those other sections, you're going to drive down concentrations even lower. And that's a good thing, particularly for particulate matter, because what

the science is showing us is that there's no lower threshold for health benefits from driving down concentrations of particulate matter. So the lower you drive down concentrations of particulate matter, the more health benefits you get. And we want to use climate change, we want to use the Clean Power Plan to make sure that happens in EJ communities.

So here's my argument about the need specifically in EJ communities to make this happen. Here are some national investigations that say on the left-hand side you have citations that say there are more polluting facilities and unwanted land uses in the Environmental Justice communities. On the right-hand side, you have studies that say that residents in EJ communities are disproportionately exposed to air pollution. And we have evidence this happens in New Jersey.

This is the slide that Doug showed. I show this all the time. This is the reason why I'm an Environmental Justice advocate, basically. So what's the slide telling you? It's an estimate of cumulative impacts in every neighborhood in opportunity. Cumulative impacts, think of it as the total amount of pollution in a neighborhood, rough estimate of that. This is DEP data. Thank you,

DEP. We've were wrestling for a long time. This DEP data from 2009. And what's the relationship between cumulative impacts, the amount of pollution in neighborhoods in New Jersey, and race and income? Well, as the number of people of color increases, the pollution increases. As the number of poor people increases, the pollution increases. It's almost a straight line relationship.

So what I always say, and I'll say it again, if you lived in New Jersey, the amount pollution in your neighborhood is connected to what? To the color of your skin and the amount of money in your pocket. Now, it goes against everything we say we stand for, but in this context, why I like this graph is because, look, the neighborhoods that need the most help have the highest of cumulative impacts are over here on your right. Those are Environment Justice neighborhoods, communities of color in poor neighborhoods. Newark is 84 percent of color somewhere on your right. These neighborhoods need help, and they need from the Clean Power Plan. Not only from the Clean Power Plan, but we need cumulative policies to invest cumulative impacts. But we definitely need help from the Clean Power Plan. That's one that's part of the solution.

Here's more evidence from New Jersey. Here is a figure that was made from -- where is Jackson? NRDC hired an expert in support of litigation where they were representing us, Jackson, representing us being Coalition for Healthy Ports when we sued the port. And they made some figures about air pollution risk in Newark. Now this is just from air toxins, just from hazardous hair pollutants, not from PM. And you'll notice that in some areas, the cancer risk just from the hazardous air pollutants is over a hundred in a million. The goal in the Clean Air Act to reduce cancer risk from air pollution is one in a million. That's my argument for the need in EJ communities for the Clean Power Plan to deliver emissions reductions of greenhouse gasses, and more important, co-pollutants.

So what's the problem with the Clean Power Plan? Well, look, we being the Environmental Justice community has had a longstanding fight with policymakers and environmental community about carbon trading to the degree that the Clean Power Plan facilitates carbon trading as a problem for us. Why? Because carbon trading doesn't guarantee emissions reductions in any one location. Set your

overall goal and say, go ahead and meet that goal but we're not going force this facility to reduce as long as you meet overall goal.

To a degree, the Clean Power Plan, and it's definitely facilitating carbon trading by just putting out there to a degree you adopt a carbon trading system like RGGI to fulfill the Clean Power Plan, you're not going to guarantee emissions reductions in EJ communities. And even if you don't adopt trading program under the Clean Power Plan, you still won't guarantee emissions reductions because, remember, it sets an average rate, an average carbon dioxide emissions rate that the State must meet. So again, no particular facility must meet that rate as long as the State meets the overall rate.

Now, look, we understand that there are going to be some emissions reductions in the EJ communities. We're not saying there's not. There will definitely be under the Clean Power Plan, there's probably definitely some from RGGI, although we don't know because no one's done an equity study of RGGI yet, although we're involved in doing one. But what we don't know is how many EJ communities will receive emissions reductions, which ones, and

by how much. So you're basically leaving equity up to chance. You're leaving all your equity decisions up to the market totally.

So what's the solution? What's a workable solution we think can get through from EJ perspective? The solution is pretty simple. Go back to -- the concept is simple, probably harder to implement. I will grant you that. But go back to my original premises. Identify facilities in EJ communities and make them reduce. I'm going to come back to that slide.

And, Pam, this slide is for you. Pam always says, "Give me some specifics. Tell me what you want."

Okay. So I'm going beyond just making them reduce. Here's a proposal for you. I'll be glad to implement it, but at least it starts the discussion. What do I mean by making them reduce? Okay, well, identify plants in EJ communities. And what we're suggesting to start is make them reduce their carbon dioxide emissions rate by at least 25 percent without using ERCs or allowances. This has to be a real reduction in emissions rate. Or -- and this is for Bill, and they would be easier to administer -- if you don't want to do 25 reduction,

okay, well then impose the subcategory carbon dioxide emissions rate. You heard Pam talk about that. You know, there's an emissions rate that the CPP imposes for natural gas plants and one for coal plants. So impose the appropriate rate for facilities in EJ communities that they have to meet without ERCs or without allowances as long as it's at least a 20 percent reduction in their previous emission rate. Previous emission rate, emission rate as of 2012.

Now, look, two of the issues right off is by how much? And I talked a little about that, and I can say more if we have question-and-answer period. You know, 25 percent to us is not written in gold, but at least that's a point to start discussion.

And the other question is what's an EJ community? Well, that's good question. We could give you a definition, but what we're suggesting is that a stakeholder group be established or an EJ committee be established that would advise DEP on those questions. You know, what's an EJ community? What should the imposed reduction be n plants in EJ communities? And other questions that I can think of but I won't go into now because we don't have the

time. But they advise DEP on that.

Let me go back. I promised to go back to this slide. So one good thing that EPA did was along with the CPP, they provided a proximity analysis, proximity data. It's not really an EJ analysis because it doesn't go as far as we'd like it to go. But what it does tell you is that for every plant that's under the purview of the Clean Power Plan within a three-mile radius, it tells you the demographics and it also does what they say is an EJ index on some important environmental variables criteria, like PM2.5 concentration, proximity to hazardous waste sites, proximity to super funds, and they come up with an index score by multiplying concentrations, PM2.5 concentration by the percent minority population in that three-mile radius and by the number of people, and they come up with the EJ index. And you know, I want to look at that more. But the thing that pops out at you right away is that see all the red, yellow, and orange? That means in New Jersey on that index, we are at least in the worst 70 percentile. I think red is 95th percentile, orange is 80, you know, but when you do that index, we don't come out well.

So what I'm suggesting, though, is

that you could use this data to figure out which plants in New Jersey you want to reduce. And we've already put plants in a spreadsheet which I've given to you that shows the plants, that shows their emissions, and shows the PM2.5 ranking from this index anyway.

I'm almost at the end, so let me just say quickly, you know, I've talked about emission reductions, but we have other EJ issues that we want to you about, just don't have the time. We support the Clean Energy Investment Program. We support a robust participation process, and we have suggestions on that we're reviewing internally. We support an EJ analysis that shows the impact of the State Plan on EJ communities. And what I'm going to suggest is that I think this would be a great topic for a Clean Air Council meeting for one of our monthly meetings where we can come and talk to you more from an EJ perspective about these things.

I'm going finish by going back to the graph I like to show people so much. Let me finish by saying this. One point is that these communities -- if you take our suggestion, and this would be a way of implementing -- Ken, you talked about multi-pollutant strategy. This proposal can

do that. These communities here over to the right have been largely left out the discussion about climate change. Black, brown, poor communities have really largely been left of the discussion. Look at the population of people in this room. You don't see a lot of people who look like me.

You implement this recommendation that would guarantee emissions reductions in EJ communities in Newark, in Trenton, in Camden, you make the CPP climate change policy immediately relevant to folks who live in those neighborhoods. It's not, well, the CPP is going to deliver co-benefits and we're going to get 25 percent reduction co-pollutants but we're not quite sure where, and they probably might be in EJ communities. No. Make sure they're in EJ communities and you automatically make it relevant to these communities and bring these folks into the discussion.

Now I'm going to issue a challenge for you. We hear all the time from folks that equity is a priority. We hear that all the time. Here's a challenge. If it is, put your policy where your mouth it. You hear a little bit of frustration because the EJ community is basically being run over. Those communities have not been part of the

discussion. And those of us who live in those communities and try to represent those communities have basically been run over. We made it known we didn't like carbon trading before, what we think of reasonable concerns, and we get it anyway. And so we hear people talk about equity, but, you know, when it comes to actually doing something about it, we're not seeing it.

So here's a challenge. Don't just talk about equity. I'm making this challenge to a lot of people. I'm making it to the Clean Air Council, I'm making it to the DEP, I'm making it to the environment groups, the mainstream environmental groups. We need to hear more than talk. If it's a priority, let's see the policy that's going to ensure the reductions in EJ communities. Don't leave equity up totally to the whim of the market.

I'm out of time. Thank you.

(Applause.)

MR. VALERI: So we're running a little behind, but this is part of our meeting where we are going discussion between members of the Clean Air Council and some of our speakers who have remained today. Obviously, we have a set of questions that we've asked that we're going to address as part of

the recommendations to the Commissioner. We're very focused on those. So we'd like to spend a little bit of time on that before we start opening up to questions from the public.

Before we start, my sort of individual question, I guess -- I thought the Assistant Commissioner was still here. Yes, he is. He's right in front of me. That's why I can't see him.

We've heard a lot today. And obviously, we're going to address some the questions. I'd like to get some of your thoughts on what you've heard today and some of the things that you might be thinking about after hearing everyone here.

ASSISTANT COMMISSIONER GIORDANO: I appreciate your presentations. They're certainly an important topic for us all to consider. And everybody's presentations today were both extremely interesting and informative.

I just wanted to -- in conversations with folks after the presentations and just hearing around the room, there were a couple of things I just wanted to clarify. And again, maybe it's the attorney in me of being here at a hearing, having a stenographer, and missing my days a prosecutor; I

don't know, but welcome the opportunity to come back up in front of you. And, again, I want to thank the Council for their time, their advice, their guidance, and this opportunity.

As you heard, one of the goals of our Energy Master Plan is to develop clean and renewable in-state electrical generation. And we're right now, as mentioned this morning, in the process of verifying new EIA data that shows New Jersey is now a net exporter of this electricity. This in turn further highlights our continuing efforts to displace upwind states dirtier and less efficient power plants. Thus, New Jersey is already doing more to reduce CO2 emissions than the Clean Power Plan ever could, even if it survives legal challenge, which we, in fact, don't expect it to. Market forces and rigorous planning through the EMP are already taking us past the environmental benefits aspired to in the Clean Power Plan. Here in New Jersey, striving for clean power is already in our DNA. We don't need EPA's reengineering.

So just to clarify, in case there's any misconception, any misunderstanding, we are not acquiescent to EPA and developing a Clean Power Plan. As I mentioned, and while we have an

excellent understanding of EPA's regulation, we are litigating the agency's strategy that excludes New Jersey's successes at reducing carbon intensity from our power sector. As I highlighted this morning, we have one of the cleanest power sectors in this country, and the Clean Power Plan fails to give us credit where credit is due. That said, we are not going to slow up progress toward cleaner, renewable, and more efficient in-state power.

I want to thank the Council again for this opportunity and the speakers. Thank you.

MR. VALERI: Questions from the Council?

Go ahead.

MR. SVENSON: Nicky, your presentation on cumulative impacts was very, very informative. I guess in my mind is you said you acknowledge there will be reductions from EPA figures that reap the benefit potentially in some of EJ communities from the health benefits resulting from the Clean Power Plan. You just can't by the plan see how it actually guarantees that any one particular community what the reduction is. I guess the question comes down in my mind is that you said 200,000 deaths avoided by the plan. I mean those

are real lives being saved. The question is, you know, it really is one of those balance of equity. And I know you have this 25 percent reduction level that you're saying on the existing sources should be -- that's your solution. How did you arrive at that particular number, I guess is what I'm asking. I think of myself. I looked at the Newark Center and whatever a brand-new source -- I can't remember specifically. I think the national graph 771 pound per megawatt hour. I don't know what that Newark center is running at. What is it again? 800.

UNIDENTIFIED SPEAKER: About 800.

MR. SVENSON: So how did you come to the 25 percent? And is that really doable for the plant that that's already in operation.

DR. SHEATS: So the 25 percent -- and I want to stress that's a starting point, Eric. So the reason I chose 25 percent is because the EPA says the plans are going to deliver overall 32 percent reduction. So I figured if you're talking about equity, well, let's make sure EJ communities get a fair share of that. Twenty-five percent is actually less than that, so it gives you a little bit of wiggle room to say -- I anticipate people to say, well, that's not attainable. So my argument

will be, well, if 32 percent is attainable, 25 percent should be attainable.

Your question is right on, though, and that's one of the other issues. So with a natural gas plan in Newark, like the one in Newark, you say how are you going to get that 25 reduction? So it gets more complicated. Probably what you're talking about is running that plant less. And this is -- and I talked EJ colleagues about this on a national level, we come out at different points. And along that with that, Eric, what you would have to do then is convert that 25 -- whatever the rate would be, the 25 percent reduction, convert it to a mass-based goal because just by running the plant less, you're not going to get a reduction in rate. So then you have to convert that to a mass-based goal and get a 25 percent reduction of that mass-based goal. And what we would hope in maybe in a state like New Jersey we're in a better position to do this because the previous speakers have said we're in a pretty good position to attain the CPP rate that we can fill in -- if we have to run some plants less in EJ communities, we can fill that in with renewable energy and energy efficiency. The EJ dilemma comes, though, that if we can't fill that gap there, we

would have to run some plants more. And where would that happen?

MR. SVENSON: So I ask -- and this really a science question maybe to Bill or some of the DEP folks. I guess I always thought that when we think about the precursors, SO2, NOx, formation fine particulates, does the SO2 emitted from a plant or NOx emitted from an immediate vicinity of the plant create the fine particulates, or is there distance component to the formation of these especially more harmful fine particulates? I guess what I'm asking is, is a plant located in an EJ community specifically creating PM, fine particulates, immediately into EJ community? Or is it being transported somewhere else some distance away from the plant?

It seems to me the presumption you have, and may be right, is that the plant right there has this local impact on a PM basis, fine particulates. I just don't know the answer to that.

MR. O'SULLIVAN: I'm Bill O'Sullivan. And there are direct emissions of particles. They are very, very low for a gas plant. The SO2 and the NOx for the new plants are also very, very low. Your point that it takes time for those to convert

to particles, so it would be considerably downwind.

One of the big problems in New Jersey is the transport of air pollution from Pennsylvania, from the coal plants from Pennsylvania. So we do get transport the NOx converting to particles on the wind and showing up in New Jersey and ozone. And we do have the problem of the SO2 from power plants in Pennsylvania converting the sulfates which are particles. So my perspective is that's the bigger problem for New Jersey as a whole is the contribution to ozone and fine particulates for coal plants in Pennsylvania.

And a point to be made is particularly on a new plant, like the Newark Energy Center, that has about one-third the CO2 emissions as a coal plant. And t probably has about 1 percent the SO2 emissions. So if we reduce operation -- let's say we shut it down entirely. Well, you get basically three times the emissions from the coal plants in Pennsylvania and other states. That's the problem in reducing the operation of the most efficient, lowest emitting plants. The power is coming from somewhere. And unfortunately, it's coming from the coal plants.

And the reason our energy -- we've

become a net exporter is because these new plants came on line. They're very cheap, they're very efficient, they're very low emitting. And coal plants are shutting down in Pennsylvania for various, including the fact that they can't compete with these new modern plants.

I went on a little bit there, so beware of calling me up.

DR. SHEATS: Eric, can I give you my answer to that?

MR. SVENSON: Yes. Thank you.

DR. SHEATS: So there's a definite -- and remember, we're talking about the local impact. So that's why I showed you that in the table with the emissions of the plant in Newark, and remember it can emit up to 97 tons of PM2.5 directly. And for the local community, 97 tons is not very low, especially when you already have a high level of cumulative impacts. And that's one place where the concept of cumulative impacts comes in, where because we have so much pollution -- like, I don't know for sure, and we should look at this, but I bet that 97 tons probably represents the largest single source of PM, you know, maybe another power plant. And so that has an impact. The SO2 and the NOx has

a direct impact also as far as the secondary formation of PM. That's where I think we'd have to do some analysis to figure that out.

The other thing which you didn't mention but which I will mention, is that -- and that's where that stakeholder group comes in. I keep saying plants in EJ communities. But you're getting to a good point. Remember on one slide I said plants in and near. Another way to say it would be plants that impact EJ communities. So I think what you're implying is that we may need to figure out which plants are impacting EJ communities the most. It may not be that plant right there, but that's kind of the first order of approximation that, you know, that I think we would go with. And I will use that stakeholder group to really decide, okay, there's going to be that plant in that EJ community. How about this other plant that's sitting, you know, right here? So that's where I think that stakeholder would group come in.

MR. VALERI: Pam.

MS. MOUNT: May I ask a question?

MR. VALERI: Yes.

MS. MOUNT: I'm Pam Mount.

I don't know who can answer this, but

we've heard that we need to have more energy, we need to have more gas lines. And then now we're exporting energy. Who are we exporting to? And then why are we buying stuff from outside that keep those coal power plants running if we're already having extra production? I mean, I sell apples. You know, you don't do that if you're trying to figure out how to get stuff done.

MR. VALERI: Where is Steve Gabel when you need him? Not here.

MS. BLUHM. Sara Bluhm.

We have a couple of power plants that export to New York because their energy is more expensive than ours. And then within PJM, the electricity goes to where it's dispatched and sold. So for liability purposes, it gets sent where it's supposed to.

MR. VALERI: Yes, sir?

DR. OPIEKUN: Richard Opiekun. I have a question that's directed to Ken Colburn.

During your presentation, you mentioned that we need to prepare for the Clean Power Plan not based upon what the technology today, but what technologies are expected to come to market. Furthermore, you said that the technology

needs to be able to manage both supply and demand. So I'm thinking in terms of how do you prepare, how can you be flexible enough to prepare for that demand side. You mentioned technology that maybe has refrigerator shut off for five minutes to save on demand, but you have these products are made by private entities. How do you plan for an incentive program for them to keep going and keep the buy-in?

I'm just trying to say because if you're basing a plan on a whole bunch of things that are in flux and you've got technology that you're relying upon from a third party, I see some problems there. And I just want to know what your best guess is on how to safely incorporate something like that into a plan.

MR. COLBURN: It's a delightful question, Richard. And I have the luxury, of course, of being the guy that flies in, offers some thoughts and flies out and leave you with the responsibility to try to plan this thing.

I don't think there are answers to those questions because most of them are still TBD. The key message that I'm trying to leave is that you should not assume things will remain the same. And I don't even mean that in sort of the generic sense;

one's always wrong to assume the future looks like the past. This is very different, because we're talking about the evolution of a market where we haven't had a market; we've had a regulatory compact. So they won't be just different because things change over time. They will be cataclysmically different because we'll have an active demand side to this market.

Now, exactly what will look like, we don't know. But I want New Jersey not to be in the situation of the automakers when the anecdote goes -- and I don't have these number right, but in anticipating the driverless car, the electronics necessary to do that, the LIDAR, radar and geopositioning devices and so forth on the order of about five or six years ago cost $200,000 a car. And about two and three years later -- well, and these folks went to GM and other automakers and said, "What do you think?" And they said, "Nice science project, but nobody's ever going to buy this."

Three years later, it's down to $75,000. Wow. More than half. And they still said, "Yeah, but."

Now with advances that we've seen,

they're down to under a hundred dollars, the geopositioning, not all the controls and safety stuff. We still don't have driverless cars, but we have pretty close, right? I was Eric's car coming down here, and he has the one that helps you stay in the lane. We're not far from that. Seventy-five dollars. To take that to automakers and they say, "Oh, my God." And they should be saying "Oh, my God," because their business as usual is threatened.

I don't know what will be the driverless car for New Jersey's energy sector, but I do know that it will look nothing like today's. And so plan on there being a strong demand side to this market. Plan on there being technologies that you didn't imagine. And then what form they exactly take, we don't know. But at least you'll be prepared by virtue of not having thought it being same as today.

MR. VALERI: Jackson.

MR. MORRIS: Jackson Morris.

I think the other aspect that is taking it back to the mechanics of a Clean Power Plan and pathway, and Ken talked a lot about the way you need to look at this comprehensively across the entire sector, not just at the smokestack. So just

one example of how there are some advantages to a mass-based structure. I mean, you could argue for a rate-based structure, it's just a little more complex probably. But in a mass-based structure, you're not picking what measure drove that ton of carbon reduction. You're just guaranteeing the EPA I'm going to meet my target, here's my cap today, here's my cap in 2030 there carbon in 2030, there will be this much less carbon in 2030 than there is now. That's what you need to demonstrate compliance.

Now, as New Jersey or New York or any other given state, you have tools at the BPU to set up structures. Like in New York right now, they were forming the energy division market where they're trying to build out market signals that will drive at the distribution level utilities to really accelerate the deployment of demand-response, battery storage, solar rooftop, you name it, some DG that that's maybe fuel cells that are super efficient, more efficient than centralized plants. So what you're doing there is you would not want to try, God help us, to build that into a Clean Power Plan submission to EPA, but you don't have to. And that's what so important about having that cap in

place to demonstrate compliance of your carbon goals and then looking at, okay, maybe it costs us X to do it old-fashioned way, but if we rally ramp up the distribution level regulation, which we have the power to do as a state jurisdictionally at the BPU, instead of the business model signals to get more refrigerators, whatever you want to use, if you get that really going on hyper mode and technologies deploying, the cost of meeting that cap now is X minus whatever you got down on the distribution side. So that's how they fit together. That's a oversimplification to some extent, but I think it is important to recognize. You showed compliance, but then the states get creative and be like the test beds for how you do it in a way that's cheaper and more efficient and then and blow the Clean Power Plan out of the water, which is -- I totally agree with Ken; over-comply five years early.

MR. VALERI: Just to follow-up because we one of our questions is on who bears the cost. In a mass-based program, you're only focused on the generators.

MR. MORRIS: Right. So in that structure, the cost is still borne by the generators. So you're setting the efficient price

signal to the generators, the generator sector. They will be the ones buying that, so obviously a coal plant is going to less efficient because they have to purchase more allowances. So that pricing while it's still very much at the wholesale level, what I was getting at as far as who bears the cost of that transition I talked about at the distribution level, that gets a little more complex. Just to drill for a second, take a look at the utility bill, right? So what are you paying right now? What portion of the utility bill is wholesale prices from the market for energy electricity? What part is on the distribution side to maintain the system? So that's going to be a key question, depending on what state you're in. Some places it's like 50/50. In places like Illinois, it's like only 20 percent is the distribution side, almost 80 percent, I think, is the wholesale side. So those are important pieces.

So the cost of investment in the distribution grid -- first of all, business as usual ain't cheap. Right. So just to maintain the conventional grid is not free; it's very expensive. And so looking at how you send market signals so that the benefits to the system overall of using the

system more efficiently outweigh the costs incurred by the customer, that's kind of the key formula. There's no easy answer to that. But that's what smart regulators work out all the time, just to make sure you balance those costs and benefits.

But if you do it right, the deployment and the cost of ramping up those distributor resources will be outweighed by the benefits you get because your system is moving so much more efficiency. So you're not building out, you know, 20 percent of the overall cost the system to supply electricity ten minutes once every three summers, which is what we're doing now when we build out capacity for that one day every couple of years where it goes through the roof, right, because we've got to keep the lights on. So if you can levelize and control the load shape, there's huge cost savings to that. So you have to balance those benefits with the investments and price signals you're sending at the distribution level.

MR. VALERI: So when looking at the cost benefit model, where in these models, if anywhere, do they take into account if the ratepayer is forced to absorb some of the cost? What is the threshold that ratepayer or maybe the industry

itself will tolerate? Because we talk about passing on costs and cost savings, but is there anybody looking at the thresholds there, the economic impact?

MR. MORRIS: I don't think there is because I don't thing there any easy answer. Like, is 2 percent is the right number? I think really what it boils down to is I always before you talk about the cost of any policy, if I'm in New York, I say guess how much it cost right now? Twenty-four billion dollars every year for business as usual. I feel like when you talk about a new program or an RPS investment or an efficient investment, there's no context. So you've got to start out, what is business as usual cost and then what's it going to be, what's it cost historically, what's it projected to cost to maintain that over time, and then start looking at alternatives and the cost and benefits of that. So I don't think there's a specific number that's tolerable. I think you can look at the net cost now and projected savings over whatever time horizon regulators decide make sense and stakeholders.

The key to all those questions is having really robust transparent stakeholder

processes so that everyone gets their way. And when somebody say, well, maybe I think it should go down 10 percent. Another person says, I'm willing to pay this much. And that's really how you do regulations in a thoughtful way.

MR. COLBURN: I think that's exactly right. To add a finer point to it, two things. We always start with ratepayers and then think what would be the incremental cost of what we're talking about. What Jackson is starting to allude to, there actually may be incremental savings. We have not had the opportunity -- we don't keep a spare car around for the two hours a year that our car is broken or in the shop or something. We do that in power sector. So that's one key point where there are lots of savings potentially available.

The second one is who asked the ratepayer if they had that opportunity. Did the ratepayers get to say, "Wait. If my lights and I'm going to save 15 percent, my lights are out two hours a year, and for that I'll save 15 percent. Okay, I'm all right with that."

They never got that question. And obviously, you have to play with that carefully because the hospitals would say no and you'd want

them to say no. But the average household might say, "Yeah. Fair deal. I'll take that deal."

So we have lots of these market kind of dynamics that we're going to start kicking around that we simply haven't before.

MR. VALERI: I wish we had Rate Council here. That's our fault.

Any other -- go ahead.

MR. LAUMBACH: Rob Laumbach.

I think a couple of the speakers pointed out that when it comes to efficiency savings that New Jersey's somewhere in the middle or bottom of the pack. So what can New Jersey do? I don't know if you guys know, if anybody has thoughts why are we not doing better in the energy efficiency?

MR. COLBURN: I don't know. I'm not a student of existing policies in New Jersey. I think a pretty easy comparison is take some of the what they call regional energy efficient organizations -- I don't know if it serves New Jersey or who does. And just compare the policies pretty much straight up whether there are incentives or rebates, lighting programs, whatever. And that won't be rocket science. That's not a hard determination. That's just asking the people who know the programs and run

the programs. Mike Wink has done a lot of this on the renewable side, certainly, and probably if not directly the answer question, point you in the right direction for New Jersey.

MR. O'MALLEY: That's a great question. I'm glad that Ken brought it up earlier with the ACEEE rankings. I mean, I think it is notable that New Jersey is always not been a lagger. We historically have been in the top 10 in ACEEE. And we have neighboring states that have kind of gone up the rankings, Maryland and Massachusetts. There are many reasons. The one that we often point to is the billion dollars that have been raided from the Clean Energy Fund by the Christie Administration over the course of the last six years. That's a huge issue and it's not only --

UNIDENTIFIED SPEAKER: It's not just six years, Doug. It was longer than that. And it was the Corzine and the McGreevey Administration.

MR. O'MALLEY: And specifically to answer that it was $30 million raided by the Corzine Administration in his last fiscal year. That SPC has consistently been seen as piggy bank to be raided over the course of 2000. For the most part, that was taken back, obviously not in the last

fiscal year. But that's significant, and obviously that money should be dedicated towards energy efficiency and that would help. That's not the only thing, but that would certainly help on energy efficiency.

MR. VALERI: Any other questions for any of our speakers from the Council?

Okay. So I'd like to start our general comment period. I guess we should be coming up here.

DR. OPIEKUN: We have two individuals so far that have signed up --

MR. VALERI: How many cards do we have right now?

DR. OPIEKUN: We have two right now, so you would be the third individual. That's fine.

What we're going to do is ask the two people, there's a Mike and an Amy here, as well as this gentleman here. What you're going to be allowed to do is you're going to be allowed two minutes to address the Council. You can come up here to the microphone so the stenographer can also capture your comments.

So the first person to come up would be Mike Shevtson man from Solar City.

MR. SHEVTSON: I work for one of solar companies in New Jersey, and I want to share my experience what I found that most people don't know about renewable and about climate change and sometimes they even don't want to know and don't want to think about it and they don't know what are the ways to go to clean power. Like 95 percent of people I try to talk, they really say, "I heard something about the environment, but I don't really care about it."

They don't think it's really important for them. They think that environment climate change is something that related to power there or somewhere else, not in New Jersey. So I think the only way to promote Clean Power Plan and to get success in it is to make people aware of climate change and make people think how they can change the situation, how they can help the environment.

And also the second thing that I want to say that many people as I talk, they said that they don't care environment. Or if they say, "Yeah, I care about the environment, but I don't want to do anything." And second thin is they really want to know how much benefits they will get. Because if you say that they will said 20 percent on their

electricity bills, most of them will say, "It's not enough for me." They say that even if I don't have to invest anything, just to save 20 or $30 a month, no, I don't want to do it.

We have to think how to change their minds, how to make most people in New Jersey to think how we can improve our environment, what I can do for it.

DR. OPIEKUN: Thank you very much. If you have additional comments, you can e-mail them to Heidi's attention. The e-mail address and information is on the bottom of the brochure. You have up until May 20th to do so.

MR. SHEVTSON: Thank you.

DR. OPIEKUN: The next person is Amy Hanson from New Jersey Conservation Foundation.

MS. HANSON: Thank you. Thank you to the Council for holding this hearing. I just was speaking with a colleague at lunch and noting how important this kind of forum is for the residents of New Jersey.

Our energy policy has a lot. It's going to influence our future and our children's future. And the more forums such as this that we can have, the better and the better informed our

residents will become. And we especially appreciate the Clean Air Council inviting the NJO community. So thank you.

DR. OPIEKUN: Thank you.

Number three, Jeff Tittle, Sierra Club New Jersey.

MR. TITTLE: Thank you. I want to thank you, Council, for having this meeting, but I also will say that what's unfortunate, you can come up with the greatest series of recommendations, you can have some of the best inputs from experts all this country, but it won't matter because the Governor will do what he wants. He will ignore the laws, like he ignored the New Jersey Global Warming Response Act, he's ignored policy when he pulled us out of RGGI unilaterally, he has ignored the law again when he's blocked offshore wind from moving forward. And New Jersey was one of the states that joined with the 14 other states to sue EPA under the Bush Administration to actually get them to regulate carbon. And now this Administration changes what was 20 years of policy and sues and joins with the Tea Party and the Coke brothers to sue to block the Clean Power Plan.

The point that I'm making is that New

Jersey is not only falling behind other states -- New York State just got $2 billion solar factory. Well, hell, they're moving forward with solar. Our solar program has been cut. We used to be second per month in installations, we're now down to eighth, depending on the month. We've had our market crash, and we're going to crash again in about another year unless we fix the RPS.

We were going to be the first state in the nation with offshore wind. We've been waiting five years for offshore wind rules to be put in place.

And by the way, if you count this year's budget, it's now $1.2 billion in clean energy funds that are being raided and paying for the lights in state buildings instead of going out for energy efficiency, costing us at least 4,000 jobs a year. We were seventh at one time in energy efficiency. And now we're 22nd or 23rd, depending on the study. This is costing us jobs. It's costing us money. Because we're not spending money on energy efficiency, people are spending more to be colder in the wintertime. Because we're not moving forward with offshore wind, we're stifling $10 billion in private investment. Same thing with

solar. Our jobs have been almost cut in half.

New York State, by the way, is moving to 50 percent renewable by 2030. California is, too. And they're getting the jobs and they're getting those savings and they're changing the utility dynamics so that the utilities become more energy providers than just selling power. Instead, we're moving backwards. We're supporting legislation that passed the State Senate this year, 80 percent renewable by 2050.

Sierra Club is working with cities around the country. We're going to have a hundred cities, we're going to a hundred percent renewable by 2035.

DR. OPIEKUN: I thank you for your comments.

MR. TITTLE: Can I finish? Because I think this is an important point I want to make.

When I hear the Administration talk about reductions in greenhouse gases, they're counting the five gas plants that are currently being built, the 600 miles of gas pipelines that are also going out there. When you start adding that up, you realize that this Administration is full of hot air when it comes to clean air and climate.

DR. OPIEKUN: Speaker number four, Mary Barber, Environmental Defense Fund.

MS. BARBER: Thank you. Yes, I'm the Director of our New Jersey Clean Energy Program and just want to also thank the Council and want to -- I think someone else said this, but to please ask you, this is good, this was very exciting to see that there was actually going to be this kind of public hearing and this opportunity to both hear from experts and also share. As far as I know, this is first of its kind around the Clean Power Plan, and as we can all hear, there was a lot of important information about a lot of different things that really matter to this State. And so look forward and urge you to continue this and to do this more often to allow -- it sounds like DEP and you are maybe meeting with industry and all of that, but it would be great to allow the public NG0s more opportunity to both learn and express our views. I want to also emphasize the opportunity -- I mean, this is happening. The markets are changing. The structure is changing, and I also want to just talk about the jobs. There's so much opportunity in this State for jobs with the new technology, the new business models. We have great opportunities, and

we should take advantage of it.

Thank you.

DR. OPIEKUN: Thank you.

Do we have anyone from general public that would like to address the Council at this time?

We do not.

I just wanted to remind people that the Council will be working on the recommendation over the next several months. Our timeline to present our recommendations to Commissioner Martin will be at our July meeting, so we're still on that timetable. Once the report is officially released to the Commissioner within a few weeks, it will be available on the Clean Air Council website, along with any supporting materials. Currently right now, if you want additional information on what we've been able to find on the Clean Power Plan, there are a whole set of links that are set up there. You could read, you can see what's available. If you think that we've missed any kind of major publication or any other information that would be relevant, please e-mail so we would be able to look at that, perhaps post that on the website as well, so everybody gets the complete picture of the Clean Power Plan, the various options, rate-based

approaches, mass-based approaches, that type of thing. So as far as comments go, you still have until May 20th to get anything in writing to us for consideration. The information for that is at the bottom of the brochure.

MR. VALERI: And I really appreciate everyone. All of our speakers who came here today, I know a bunch of you from my current and prior life and public life, and I know this can be a very emotional topic, but I think we all have very similar goals. The end of the day, this Council has chosen this topic because DEP has a charge, assuming the litigation goes in the direction with the Clean Power Plan remains. And while taking no judgment on the litigation, we are the advisory body of the Commissioner, and we intend to satisfy our requirements. And we do appreciate all of your comments. Please let me reiterate to the extent you have additional comments, please submit them online before May 20th.

Thanks to everybody who came today.

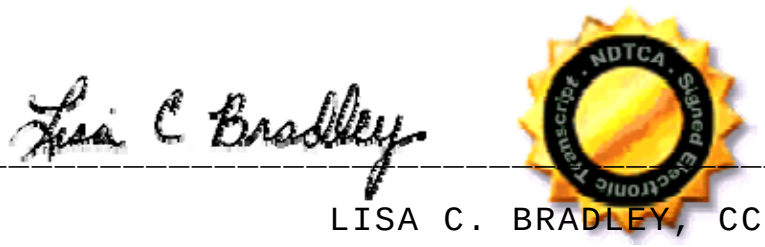
DR. OPIEKUN: We would also like to thank today our host here, Thomas Edison State University for providing this room to us. That's very much appreciated. We would like to thank our

stenographer, as well, for all of her hard work. We'd like to thank the State Police for being here, as well, today, and for everyone attending this meeting. Thank you very much, and we're officially adjourned.

(Hearing concluded at 2:18 p.m.)

C E R T I F I C A T E

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



LISA C. BRADLEY, CCR

CCR NO. 30XI00228700

Dated: May 31, 2016

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