CARBON CAP IMPLEMENTATION ADVISORY COMMITTEE

Of the

Suffolk County Legislature

A meeting of the Carbon Cap Implementation Advisory Committee of the Suffolk County Legislature was held at the KeySpan/National Grid Building, Hub Drive, Melville, New York, on November 13, 2007.

Members Present:
Neal Lewis - Acting Chair/The Neighborhood Network.
Wayne Horsley - Legislator Representing District #14
Todd Stebbins - County Executive Assistant Representing Carrie Meek
Gallagher/Commissioner-Dept of Environment & Energy
Jon Waffenschmidt - Representing Legislator Losquadro/District #6
Joe Schroeder - Energy Specialist/Budget Review Office
Yacov Shamash - Dean/SUNY-SBU College of Engineering & Applied Science
Paul Kalb - Environmental Research & Technology/Brookhaven National Lab
Gordian Raacke - Executive Director/RELI
Maureen Dolan-Murphy - Citizens Campaign for the Environment
Representing Adrienne Esposito/Executive Director
Harry Davitian - Chair/Long Island Association Energy Committee
Mark Seratoff - SEA-Long Island
Robert Teetz - Director/Environmental Engineering & Compliance
James Meyers - Suffolk County Department of Health Services

Members Not Present:
Yacov Shamash - Dean/SUNY-SBU College of Engineering & Applied Science

Also In Attendance:
Monique Brechter - LIPA
Joe Muncy - Budget Review Office
Javed Ashraf - Suffolk County Department of Health Services
Yelleshpur N. Dathatri - Director/Solar Energy Center.
Farmingdale State College
Peter Iwanowicz - Director/Climate Change Office
New York State Environmental Conservation
Lois New - Climate Change Office-Chief/Partnership & Program Site
Mark Lowery - Climate Change Office-Partnership & Program Site
Andrew Manitt - The Neighborhood Network
Brendan Stanton - Aide to Legislator Horsley

Minutes Taken By:
Alison Mahoney - Court Stenographer

(*The meeting was called to order at 2:07 P.M.*)

CHAIRMAN LEWIS:
I'll call the meeting to order. It's about ten after, almost. We have to start with a go-around because not all of us know everybody, so I think that's an absolute. So I'll save any opening comments until we do the go-around. Mark, you want to start us off?

MR. SERATOFF:
Good afternoon. My name is Mark Seratoff, Coordinator of the Sustainable Energy Alliance of Long Island.

MR. SCHROEDER:
Joe Schroeder, Suffolk County.

MR. MUNCY:
Joe Muncy, Suffolk County Budget Review Office.

MR. ASHRAF:
Javed Ashraf, Suffolk County Department of Public Works.

MR. DATHATRI:
Yelleshpur Dathatri from Farmingdale State College, Director of the Solar Energy Center.

MR. WAFFENSCHMIDT:
John Waffenschmidt, Covanta Energy.

MR. KALB:
Paul Kalb, Brookhaven National Laboratory, Science Department.

MR. TEETZ:
Bob Teetz, National Grid.

MR. MEYERS:
Jim Meyers, Suffolk County Health.

MR. LOWERY:
Mark Lowery, State DEC Office of Climate Change.

MS. NEW:
Lois New, DEC, Office of Climate Change.

MR. IWANOWICZ:
I'm Pete Iwanowicz, the Director of the DEC Office of Climate Change.

MS. DOLAN-MURPHY:
Maureen Dolan-Murphy, Citizens Campaign for the Environment.

MR. DAVITIAN:
Harry Davitian, Entek Power Services, but I'm representing the Long Island Association.

CHAIRMAN LEWIS:
Neal Lewis, I'm Co-Chairing with Carrie Meek Gallagher who has a conflicting meeting which is part of the reason we had to get a different location. Todd Stebbins is supposed to be sitting in for her, so hopefully he's here somewhere, locked outside or something, but he should be here any minute.

MR. RAACKE:
Gordian Raacke, Renewable Energy of Long Island.

MS. BRECHTER:
Monique Brechter, LIPA.

MR. MANITT:
Andrew Manitt, Neighborhood Network.

MR. STANTON:
Brendan Stanton, Legislator Wayne Horsley's Office.

CHAIRMAN LEWIS:
So Brendan, you had sent me the updated list of members; I made a nice copy of it before leaving my office, I don't seem to see it in my pile of papers. Are you able to remember whether we're all here? I think we can at least announce we have a quorum, right?

MR. STANTON:
I would certainly say that we have a quorum; it does appear as though we're missing one or two.

CHAIRMAN LEWIS:
Yeah, there were one or two saying they could not make it. Okay, so let's go from there.

This is the plan in terms of the agenda, I didn't actually write out an agenda because it's really those two items. One is to review the base-line data that we've been collecting on behalf of the committee and to talk a little bit about what the plan is in terms of that data. I want to cut that short, I'd say maybe ten minutes or so and really stop and I want to then turn to Peter Iwanowicz's presentation, because I don't want to take too much time from his presentation. And then depending on if we have enough time, come back for the numbers at the end of the meeting because some people aren't going to be able to resolve the number, fact-finding mission just yet. So that's sort of the plan in terms of the agenda.

So with that said, let's take a look at what we have given out to you. First, you should see charts that are numbered one through; did everybody in the back row get those? There are a few extras up here if not.

MR. TEETZ:
I'm missing number two. Oh, it's the same page, sorry; saving paper.

CHAIRMAN LEWIS:
I'm out of pages one and two, but hopefully -- it looks like people got that? Great.

Okay, this data was collected primarily from the work of our KeySpan and LIPA reps, Bob Teetz and Monique Brechter. Bob, you want to say a word or two about the source, first of all, for the information? And let me point out, the previous chart we had shown every year and on chart five it shows every year, but what we've done is to tighten up the number of years because it was just making it unwieldy to work with as a chart, so that's one thing we did. And what we see are the years 1990, 2006, 2007 -- I'll explain that in a moment -- and then 2015, 2020. The law talks about the years 1990 and 2,020, so clearly we need those on the chart. And the Governor has announced a program for 2000 -- with a target date of 2015, so it seemed to make sense to include the 2015 year. And other than that, we may want to tweak the question of the 2006-2007. The premise there is to try and get the most recent data, and obviously you don't have the 2007 data done yet, but that was kind of the idea of having either '06 or '07 or both. So those are the years.

Actually, who has the law in front of them? Andrew, can you pull up the legislation so we can talk about what the charge is in terms of the baseline data we have to generate? So it was a goal, I should say, to try and get this stuff as close to being done as possible. If you'll recall, the previous meeting we spent a lot of time talking about the data and we're going to identify -- there's still a fair amount to collect, especially the older stuff I mentioned is a little hard to find. Bob, you want to tell us a little bit about what you've been doing in terms of the source for this information?

MR. TEETZ:
Okay. Well, not all of this data comes from us, but some of it does, and we're trying to find some additional data where you see a lot of blanks. But we're very confident about the KeySpan National Grid Generating Facility Emissions. And if you look at Chart One, that's Electric Generation and Associated CO2 Emissions in Suffolk County. So on the left side where it says "LILCO/KeySpan", those tons would be the tons from Suffolk County generating facilities that we own or owned in 1990 and the projections through 2020. What we don't have a good handle on yet is the "Non-KeySpan generation" in Suffolk County, the "Waste to Energy" in Suffolk County and the "Total". Our Suffolk County Emissions, as you can see, have gone down considerably since 1990. Now, this is somebody that might be standing at the door here.

(*He took a quick phone call*)

The next chart is --

MR. WAFFENSCHMIDT:
I just want to say, under Chart One, as I had presented last time, we believe the only appropriate way to look at waste energy is comparison to landfills and we need to include these lifecycle costs in there, otherwise it's not an inappropriate representation.

MR. TEETZ:
And that's what I think they're trying to capture with the asterisks.

The next chart, Total LIPA-Induced Emissions and Suffolk County Consumption Contribution; this chart needs a lot of work. I'm not sure who put the numbers there in the "Tons Per Capita", those obviously can't be correct.

MR. MANITT:
Well, that actually was supposed to be the total tons but it's wrong, too; I don't know where it came from so I put a question mark next to it. I think I plugged it in one of the phone conversations we were having, I just plugged it in wrong.

MR. TEETZ:
Well, what we're trying to do here is LIPA-Induced Emissions would be emissions that are attributable to LIPA customer usage on Long Island from all sources. Remember, only -- KeySpan National Grid only supplies a fairly small percentage, maybe 25 to 30% of the total LIPA load. LIPA has other generating suppliers that are both on Long Island and which come through tie-lines from New England, New York and Pennsylvania, Maryland, New Jersey. What we're trying to do here is identify the best way we can where those CO2 tons are being generated that are attributable to LIPA's demand. And then ultimately we want to break that down on a per capita basis so we can say that the average Long Islander uses about -- or creates in essence about "X" tons of CO2 per year through their usage of electricity; that's the intent of Chart No. 2.

CHAIRMAN LEWIS:
Okay. And as you say, you have high confidence in the numbers that you see in the letter portion of Chart One.

MR. TEETZ:
Yes, absolutely. But, you know, as I said before, we monitor our CO2 emissions very, very carefully according to all the EPA protocols and standards, so we've got a good handle on that.

CHAIRMAN LEWIS:
So I'm thinking in terms of the best way to go through all this stuff. First of all, what is it that you think you will be able to generate that's not currently on Chart Two? For example, is that anything you were working on?

(*Legislator Wayne Horsley entered the meeting at 2:17 P.M.*)

MR. TEETZ:
Chart Two, I think we should be able to get the total LIPA-induced tons, we're working on that using certain mass models.
We certainly can come up with a LIPA/ Long Island population, that should not be a problem. And then we should be able to come up with the Suffolk County population, again, that shouldn't be a problem.

The "Suffolk County Electric Consumption", what we're trying to do there is sort of get a sense of how much electricity is being consumed in Suffolk County versus how much is being produced in Suffolk County, just to get a sense on, you know, what the import/export and the on-Island/off-Island generation is.

Moving to Chart Three, the "LIPA-Induced CO2 Emissions by Source". This is similar, but basically what we're trying to do here is through the years determine what percentage of the Long Island demand is being produced on-Island by KeySpan, off-Island by others and on-Island by others than KeySpan. The 1990 data has proven to be a bit difficult to come up with, but I think we will be able to do that; that's why you see TBD in that realm.

Chart Four is simply a listing of the emission rates of various types of generation, ranging from the average coal-fire plant in the US to the average fossil plants including coal, oil, gas, etcetera, in the US. And then typical emission rates in CO2 tons per megawatt hour for units on Long Island like Northport, Port Jefferson, depending on whether they're on oil or gas. And then some of the newer peaking units that have been built over the last four or five years would be listed there, and then the state-of-the-art combined cycle, natural gas fire facility, you know, has a very good emission rate. And then lastly, the Co-Gen Combined Cycle Facility at Stony Brook University which has the best emission rate of all, because it uses the waste steam for on-site heating.

So it just gives you a sense of the types of generation we have on Long Island and how they compare to one another in terms of emission rate.

MR. WAFFENSCHMIDT:
And I feel obligated to point out again the error. Over here you include biogenic, not even separating it out looking at it non-biogenic. But again, the only appropriate way is to look at (inaudible), so you're kind of missing how to look at greenhouse gas management.

MR. TEETZ:
Point well taken.

MR. WAFFENSCHMIDT:
So if either of you guys want to do some of these alterations that are inconsistent with my presentation last time, we should at least present the alternative view and have some discussion on that.

CHAIRMAN LEWIS:
Not a problem. I apologize, but we've been rushed to get this all to this committee for today's

meeting. And the points John is making he did previously make. We didn't really have the time to think it through carefully about how to present that, but there are certainly valid points there.

MR. TEETZ:
I think it's fair to say this is all preliminary.

CHAIRMAN LEWIS:
Yes.

MR. TEETZ:
We need to populate the tables and then really have a good, vigorous discussion about it --

CHAIRMAN LEWIS:
Right.

MR. TEETZ:
-- and put everything in its proper perspective.

CHAIRMAN LEWIS:
Exactly.

MR. TEETZ:
And taking John's comments into play.

MR. WAFFENSCHMIDT:
I only say just one more thing, and I offered you this comment the last time; if you're really going to look at 1990, even if you assume that they were going to landfills, landfills have improved in that time. So it depends on how you want to look at the actual carbon footprint, even with landfills, Long Island, Suffolk County has improved for the export portion.

CHAIRMAN LEWIS:
Okay.

MR. WAFFENSCHMIDT:
Again, if you want to give a real picture, 1990 to the future, I mean, that is a real change that you could account for.

CHAIRMAN LEWIS:
Okay. Some other points, Gordian?

MR. RAACKE:
Bob, I just -- obviously we have actual data through I guess 2006 and we met certain assumptions regarding forecasted numbers.

MR. TEETZ:
Yes.

MR. RAACKE:
It may be helpful to put some footnotes in explaining the assumptions that we're making on the forecast.

MR. TEETZ:
Yes, we should do that, but I can throw a few out. The forecast is based on LIPA's modeling which attempts to determine what future demand will look like, and then they use these models to basically produce an economic dispatch of all the generating resources that are available to LIPA going forward. It makes assumptions about the price of fuel, whether it's coal, oil or gas. Every

power plant that is available in the region is essentially an input component for these models, but the models do not anticipate significant government action to reduce CO2. This would be business as usual going forward. Based on projections of low-growth, fuel prices, etcetera.

CHAIRMAN LEWIS:
So part of Gordian's point would be that we should clarify all of that.

MR. TEETZ:
We should definitely list all the avenues.

MR. RAACKE:
Clarify that, and maybe -- I don't know whether that's beyond the scope of our report, but maybe use some sensitivity, because we can --

MR. TEETZ:
That's where it really gets tough, because it's very expensive to run these models and we have to have some discussion with LIPA and it's time-consuming.

MS. DOLAN-MURPHY:
And confusing, too, honestly. I would just add to -- Bob, I think it's an excellent idea to lift out the key assumptions, there's hundreds of assumptions that really don't move the needle as we say, but there are some key assumptions that are driving the results, so we'll list those out. For example, as Bob said, our fuel forecast, things like that, that really -- that really do change the results. And then we've actually -- we can pick -- we do do sensitivity zone stuff, too, so we can maybe pick and choose what sensitivities we might want to --

MR. TEETZ:
Right. There are a number of sensitivities already done which maybe we can supplement, but to actually create new ones would be --

MS. DOLAN-MURPHY:
Yeah, we have a good subset of sensitivities that we could work from.

CHAIRMAN LEWIS:
One of my rules is to not pretend that I know something when I'm in a meeting. So I don't know what sensitivity means, but I'm not going to ask for the answer because I want to hold that --

MR. TEETZ:
It's a sensitive issue.

CHAIRMAN LEWIS:
I don't want to touch upon a sensitive issue.

So, what we've done so far in the meeting is put the charts on the table and we've gotten a few comments on some changes and ways we have to work with these charts. What I'd like to do, if I could, is acknowledge two people that got in slightly after we started and then if we could perhaps get to our main presentation. So as we said, this is purely preliminary data in these charts right now, and if we can get some time we need to talk about it a little bit further that would be great, but really to a certain extent we may want to just create a subcommittee to continue to try and hammer out the numbers and come back and have that as our next meeting, basically adopt the numbers that we're talking about after some of the blanks are filled in and the qualifiers and the explanations are provided, that kind of thing.

MR. SCHROEDER:
Excuse me, Neal.

CHAIRMAN LEWIS:
That's sort of the direction we're going in.

MR. SCHROEDER:
I thought you were going to pass these out, so I was holding --

CHAIRMAN LEWIS:
Yeah, I want to go over those as also.

MR. SCHROEDER:
If you don't want to hold them out that's fine, because they're too small to read anyway.

CHAIRMAN LEWIS:
Okay.

MR. SCHROEDER:
But I would like to make a couple of comments about the charts as they are. I think, first of all, limiting the years 1990 through 2006 to the few that are noted puts us at a disadvantage when we can do a lot more trending analysis based on the actual data that we have for each year from 1990 through 2006. So I'd like to see that data included in at least the working document, you could always summarize it, you know, later on, but to do that while you're doing the analysis doesn't, to me, give us any advantage; in fact, it gives me too little data points to go on.

The other thing I'd like to see included in there is fuel type, the percentage of fuel type on an annual basis so we can use -- you know, include that in our analysis as an influence on what's been happening with the emissions over time.

MR. RAACKE:
Yeah, it's a good point because fuel -- types of fuel varies widely depending one year to the next.

MR. TEETZ:
Right.

MR. RAACKE:
We may be looking at the wrong year.

MR. SCHROEDER:
So that would be -- those comments are for chart number one and also for chart number -- I guess it's chart number two, also the number of years. And I recommended to Neal that we do a Suffolk/non-Suffolk line for each year, for each of the categories, and instead of listing those categories one on top of each other, spread them out so we could do for each category a Suffolk/non-Suffolk contribution. Because, you know, we're talking about off-Island influences on emissions here, it makes absolutely no sense in that context not to include Nassau emissions in this evaluation. So to get Nassau and Suffolk or Suffolk and non-Suffolk influences would seem to be wholly appropriate.

MR. RAACKE:
The whole lot by territory.
MR. SCHROEDER:
Right, but broken down, broken down to Suffolk and Nassau.

CHAIRMAN LEWIS:
I'm not sure, though, that there is a mechanism, I think it depends upon which item you're talking about, whether or not LIPA breaks it out.

MR. SCHROEDER:

Well, it appears to be available. If you're getting Suffolk-only data then there must be non-Suffolk data.

MR. DAVITIAN:
It's imputed Suffolk data.

MR. SCHROEDER:
But then you'd have the imputed non-Suffolk data.

MR. TEETZ:
When you say imputed, what we can determine is the demand that's associated with Suffolk County. We can kind of tell -- and this is -- it's always an estimate, where that energy is coming from, how much is coming from KeySpan or National Grid units, how much is coming from Suffolk County on-Island units that are not owned by us, how much is coming from Nassau County not owned by us, how much is coming from tie-lines. You know, we could generate reams of data, but the question is what are we ultimately trying to accomplish here?

CHAIRMAN LEWIS:
All right, so let's just -- that's all on the table. Your comments are well taken, let's try and figure out exactly what we're going to include in the data. And I guess it may make sense, we kind of had a working group meeting, maybe it makes sense to see if some of you want to volunteer to be on a subcommittee to see if we can bring these charts to a point of more or less being complete and bring them back to the committee for a vote; does that make sense to people? Do you want to do that right now, then, perhaps; make a motion that we form a subcommittee to prepare the sharp data?

MR. DAVITIAN:
As long as that doesn't mean I'm volunteering. I make a motion that we establish a subcommittee to determine how the data should be compiled and presented.

MR. SCHROEDER:
I'll second that.

CHAIRMAN LEWIS:
Any discussion on creating the committee, subcommittee? Everybody in favor of that? Anybody opposed? Okay, I'm not seeing any opposition. So we're going to form a subcommittee and we ask -- does anybody want to show hands right now so we can sort of know where we stand, who's going to volunteer to work on these numbers? Okay, John; Bob, you have no choice, we have to rope you in.

MR. SCHROEDER:
To the extent possible, yeah.

CHAIRMAN LEWIS:
Okay.

MR. TEETZ:
And Monique.

MS. BRECHTER:
Yeah.

CHAIRMAN LEWIS:
Okay, so Bob, Monique and myself is a given and we're adding to that Joe and John and Todd. Okay, anybody else? Okay, so I'll send out an e-mail about that, if there's anybody else, particularly anybody that's not here right now. And just be clear, it will be up to this group as a whole, this

committee to vote on what we're accepting as the data and what format and all that, the committee is just going to make a recommendation to the group.

MR. DAVITIAN:
You know, we talked about what isn't here, but I think what already is here is actually pretty interesting, actually one of these charts, chart four, and addresses some of the questions and things that we've been talking about. I think chart four nicely shows the different kind of contributions to carbon dioxide and different types of power plants and there's a lot there to learn from that. And in chart three, I think it's interesting you raise the question of what happens if we have tie-lines to bring power in from off-Island and what is the effect on that. If you look at the years of 2006 and 2007, the key difference there is not low-growth ability, the neptune cable which was only available about six months of the year, and you see a significant increase in carbon dioxide emission due to electric on Long Island due to the PGM imports, so that alone increased the carbon dioxide.
So I think there's some interesting conclusions that come out of what we've already got.

CHAIRMAN LEWIS:
Yeah, I think that's particularly true. You know, Bob did chart -- well, he actually did both of these, but chart four when he generated that I found that, you know, particularly helpful. If you look at where it says Northport Actual, Port Jeff Actual, as compared to the different variations, whether they use gas or oil, I think it's all stuff to give you a picture of how your policy decisions impact CO2 numbers.

Okay, with that said, we have Todd Stebbins here and our Legislative sponsor Wayne Horsley after we did the go around. Wayne, did you have any opening comments you wanted to --

LEG. HORSLEY:
Sounds like you guys are doing great, it rocks my sensibilities.

CHAIRMAN LEWIS:
Okay, good.
Okay, with that said, Peter, I want to turn it over to you. Part of the committee's charge is to generate this data, which we've been struggling with, but then the other part is to get into a policy discussion about how either carbon caps are done in Suffolk County, we might be able to reduce the CO2 numbers or whether there's other strategies we want to recommend to the Legislature, and the obvious one that we're sort of talking about is the dredging program.

I find it a little difficult, I've gotten a couple of presentations, I'm looking forward to hearing your presentation because I do find this a little tricky to follow. We did hand out the 2007 Agenda of the Long Island Energy Environment Round Table, and on the third page -- I think Harry is the only one that's got it highlighted, so I'll just show this one -- this was the section that had the reference to RGGI. So hopefully there's nothing in there you totally disagree with, Peter, but this was an effort by ten environmental groups to agree on a positions, how RGGI should play out and we've come to -- a lot of back and forth about that language. So people can have that in front of them as we go to your presentation; and I apologize if I didn't send that to you ahead of time, I should have.

So tell us a little bit about your role. You're a name that environmentalists have known for many years in various positions and now you're working for the Governor's new role.

MR. IWANOWICZ:
First tell me how much time I have.

CHAIRMAN LEWIS:
The idea for the meeting is to stay in the two hour to two fifteen range, to bring us to 4, 4:15. So, you know, you've got a full hour and a half.

MR. IWANOWICZ:

I won't need that much time. And stop me along the way if you have questions, it's better to handle them when they're in front of you than --

MS. MAHONEY:
Can you just speak up, please?

MR. IWANOWICZ:
Sure, I'll try my best. Pete Iwanowicz with the Office of Climate Change for DEC. Before moving inside government, I've worked many years in a couple of different groups in Albany working on environmental issues. Most of that last 15 years or so was spent with the American Lung Association in a couple of different capacities. Most recently, the last eight years, the American Lung Association is doing outdoor air pollution work, so clean air and clean energy and most of you probably interacted with me in that capacity.

I also worked for Environmental Advocates of New York in the mid to late 90's when deregulation was -- and everything was going on with that as well as some of the clean energy policy, we've done enactment of the first legislation, a lot of clean vehicle things. So stepping away from the front lines of grassroots advocacy and NGO work to step inside government in May when the Commissioner asked me to head up the Office of Climate Change. So I'll get into a little bit of detail of what the office is about, maybe set the stage for you a little bit of what we're doing there, but that's a little bit about me.

I also wanted to sort of run you through the input of why, you know, climate change is such a big deal. It's one of the Commissioner's top five priorities for the agency, for his administration of DEC, it's obviously a priority for the Governor, you know, and it's a priority I think for everybody around the table because things are getting warmer and the science is pretty clear on that. For us, the debate's really over whether climate change is happening in a role that humans are playing in climate change, it's educating people of the degree of the impacts that are happening, you know, how warm things are going to get and how fast. Also, working with the lead researchers at Cornell University and Columbia and elsewhere to really hone in the educational component to show in different aspects how significant climate impacts are for New Yorkers.

So I'll run through a couple of slides here, but the bottom line is, you know, it's a rate of a half of degree per decade with warming temperatures. And the source on this is the Northeast Climate Impacts Assessment and we use a lot of the information from that effort and one of the slides here has their website, it's "climatechoices.org". About a year ago they rolled out a report looking at the northeast in particular, what's going to happen, in this report they modeled the warming trends for Upstate, New York. The higher emission scenario has New York looking like an environment like Jordon. Higher emissions, this links back to the UN Climate Convention, higher emission scenario, and it's basically we're not sitting around this table thinking about what to do about mitigating greenhouse gas. Business as usual continues and such efforts to support renewables or efficiency doesn't happen. That's the high emission scenario. So it will get kind of toasty, you know, if we don't get our act together by the end of the century.

At the lower emission scenario, and this is if we start to deploy energy efficiency, if we start to ration in more efficiency with electrical systems, employ more renewables, if our vehicle fleet gets more high miles per gallon vehicles and we control CO2 for vehicles, then we have this little lower emission scenario. I didn't say a complete change over the economy, I didn't say get away with fossil fuels, so lower emission scenario should never be viewed as sort of like the floor. This is sort of a target where we're trying to achieve stabilization and CO2 emissions by mid-century. But it's not all that we can do. It's sort of like, you know, a good first step sort of a way to look at it. So even at that, we're getting around Virginia and Washington D.C.. I mean, it's not the New York or the northeast that I think a lot of us grew up with, certainly not probably the New York or the northeast that we'd want our children and grandchildren to inherit.

MR. KALB:

Peter, are there any concentration levels associated with the highering of (inaudible)?

MR. IWANOWICZ:
I guess the best way to peg it is that lower we're talking stabilization by mid-century, you know, 500 or less part CO2.

MR. KALB:
Not less than now, just less than what it would have been.

MR. IWANOWICZ:
Exactly, yeah, sort of getting our act together now in an aggressive format to deal with stabilizing CO2 by mid-century.

MR. KALB:
And the higher scenario?

MR. IWANOWICZ:
I don't know what the higher scenario is.

MS. NEW:
Business as usual.

MR. IWANOWICZ:
You know, I know that the data on climatechoices.org is sort of where they get it; if it's not, I will get it to you.

MR. DAVITIAN:
And with stabilization, it doesn't rise?

MR. IWANOWICZ:
That's right, it's sort of getting to the level and trying to keep it at that level.

MR. DAVITIAN:
(Inaudible).

MS. MAHONEY:
Excuse me. You're facing that way. I'm sorry, I'm unable to hear you.

MR. DAVITIAN:
I was just asking what stabilization means and does it mean that the rate of absorption of the natural process is equal to the rate of increased generation of carbon monoxide by fossil fuel.

MR. IWANOWICZ:
Well, stabilization gets to -- if we don't deal with things, CO2 is going up. Stabilization basically gets to a level where growth doesn't occur, it sort of, you know, flattens off the curve, if you will. So the hockey stick curve that you've seen doesn't get to that level, we stop and stabilize it which is no extra growth in CO2.

MR. DAVITIAN:
What happens if fossil fuels that are being used beyond that point in time, what happens to the carbon monoxide?

MR. IWANOWICZ:
Well, our hope is that for energy efficiency and renewables and other measures, that we're not consuming as much fossil fuel, so that's our feeling.

MR. TEETZ:
But the sinks, I guess, are sufficient to absorb any additional.

MR. DAVITIAN:
That was my question.

MR. IWANOWICZ:
What else is looked at impact. Well, the New York State impact extreme heat in our cities, and this is an interesting public health relations between heat in our cities, it's two-fold mortality and morbidity issues. One is just the direct heat stress and the associated heat stress it has on the general public. There's a lot of research going into this and looking at premature deaths in seniors because our cities are really hot. And so what they've looked at is, again, lower emissions/higher emission scenarios, we chance we are having days over a hundred degrees. Maps here of New York City and Buffalo, looking at two sort of polar ends of the state geographically, and it's pretty clear that under the low emission scenario you have seven days over a hundred degrees, 25 days if we don't get our act together.

There's also a relationship, and I see some information on your sheet, of ozone formation. Ozone is a secondary pollutant, obviously, that's only going to form in the presence of, you know, high temperatures and sunlight. So while there are direct public health impacts associated with heat stress, formation of ground level ozone has its whole suite of public health impacts, shortness of breath, wheezing, triggering asthma attacks to those with asthma, and obviously premature death is now being associated with high level ozones. So it's obviously a secondary pollutant is formed on these hot days so that the fewer hot days we have the lower the chance of ozone formation. Obviously you don't want to rely on weather control, it's just another aspect of hot temperatures that I think people need to be aware of.

This maps coming up okay, but this looks at sort of the hundred year flood and how frequent it would occur. One of the symptoms that scientists are honing in on is the frequency of severe rain events and also the expansion of our oceans as a relationship to not only frequency of heavy rain events but sea level rise is occurring, so you're going to have more -- a greater likelihood, I should say, of the hundred year flood and they're saying -- suggesting that under the higher emission scenario, that hundred year flood really could happen every ten years.

What you see on the light blue is sort of a flood map for lower Manhattan, and obviously, you have significant infrastructure that gets flooded here. So, you know, at the climate office we're looking at things like how to help cities and other municipalities process data and local governments deal with this phenomenon of a hundred year flood happening more frequently. Has your infrastructure been planned to take this into account, drainage systems? What type of emergency preparedness do you have for events that happen more frequently than what you're used to? So we've just started to have those kinds of conversations.

No one is going to be able to say with scientific clarity if one rain storm or another, you know, is related to global warming, but one of the symptoms of a warming atmosphere is clearly these rain events that happen. You know, a five inch rain storm that shuts down the city subway system, a month before that you have a heavy downpour that shuts down Long Island Railroad and the Expressway. So intuitively, when I'm visiting with friends and family down here, people bring those events up when I talk about what I do know for work, climate change, but I think the general public sort of seems to understand what the scientists are telling us, that you can't predict with 100% certainty. The warming planet is going to release warming, warming oceans obviously expand versus the cooler oceans and you're going to have more sea level rise.

MR. KALB:
Is this independent of ice caps melting?

MR. IWANOWICZ:
Yes. That's part of the phenomenon is polar ice sheets melting and producing more water into the oceans, obviously that's a piece of it. This also looks at expanding oceans more frequent rain events.

MR. DAVITIAN:
Do you have a comparable chart for Long Island?

MR. IWANOWICZ:
I don't know if they do, not on their --

MS. NEW:
No.

MR. IWANOWICZ:
We looked at a couple of major metropolitan areas because they did that. I learned earlier today that Columbia University is taking their {Metro East} Study and potentially expanding the scope of their {Metro East} analysis to look at sea level rise impacts on Long Island, that might be available within six to eight months time so I'll keep an eye out for impact analysis moving forward.

What we're going to try to do is sit down with the -- I should stop for a second and talk about some of the other activities of the Climate Office. But the State Legislature created and the Governor signed into law a Sea Level Rise Task Force and will comprise memberships of State agencies, DEC will be the Chair of the Sea Level Rise Task Force. There are appointments that we expect from the County Executive in Suffolk and Nassau as well as New York City will have an appointment to the Sea Level Rise Task Force. That group will start to hone in on what we know about science to try to produce information on what you are looking for as well. We have an 18 month clock that started ticking in August to try to generate any information. Any other questions on the Sea Level Task Force?

MS. NEW:
Would you say that the same source also did impacts by sector, including coast lines, and so in their full report there is some additional information; they don't have a graph like this, but additional information.

MR. DAVITIAN:
That would go out on Long Island?

MS. NEW:
Yeah, and we're planning a briefing from them.

MR. DAVITIAN:
Is that website "www.climatechoices.org"?

MR. SCHROEDER:
Excuse me, are we going to get a copy of your presentation?

MR. IWANOWICZ:
I didn't make one available, but I can.

MR. SCHROEDER:
No, can we get it electronically?

MR. IWANOWICZ:
Yes, I can e-mail it to Brendan or Neal.

MR. SCHROEDER:
Great.

MR. IWANOWICZ:
I want to talk a little bit of statutory authority. This is just a snapshot which we think gives the State Department of Environmental Conservation statutory authority and this is just regional. We looked at all the different statutes, so we think we have broad authority and actually a requirement to deal with CO2 in particular but other greenhouse gases. Our sister agency and our RGGI world NYSERTA also has pretty broad authority to enact legislation requiring options, but I just wanted to sort of list it out there. When you look at all the various sections of law with various components of land and water as well as air section of the Environmental Conservation Law, we have authority to regulate CO2 and start moving to mitigate the impacts associated with other greenhouse gases.

Attached to that obviously is a Supreme Court decision, Massachusetts v. EPA in the spring of this past -- of this year which basically listed CO2 as an air contaminant. So with an air contaminant, we are required as an agency to control air pollution. You know, we believe that our existing authority under the Environmental Conservation Law, with this Supreme Court decision really sets us up for a pretty good stable base of statutory requirements to deal with CO2.

What's being done in New York State to deal with it? And I'll get into RGGI and more details later. But first and foremost, the Governor proposed and the Legislature countered with his proposal in the spring to create the Climate Change Office; I direct that, we have two members of the office here, there are eight others back in Albany and two others two expected before the end of the year to join our team for a full 12 additional members dealing with climate change. And yeah, we are the envy of our peers in the northeast because we have the most resources to throw at that, so we're pretty thankful for it. But we envy states like California that have 120 people on the climate market.

Obviously we're doing the greenhouse -- Regional Greenhouse Gas Initiative. We've also signed on as a member of the Climate Registry. The state has adopted the California Greenhouse Vehicles, we get accused sometimes of picking on power plants, we've, you know, adopted regs to deal with the power sector, we're going after vehicles and that's just the tip of our iceberg.

MS. BRECHTER:
Excuse me.

MR. IWANOWICZ:
Yes.

MS. BRECHTER:
When are the vehicle standards kicking in?

MR. IWANOWICZ:
Vehicle standards actually -- the question was when are the vehicle standards -- I'll help you, just face me and I'll run the question back.

MS. BRECHTER:
Oh, when are the vehicle standards kicking in?

MS. MAHONEY:
Oh, that's okay, I got it.

MR. IWANOWICZ:
The vehicle standards kick in -- actually, hopefully they'll kick in with the 2009 model year, and basically that model year begins functionally two years ahead of time, so we're in that sort of model year period. So technically they are supposed to be looked at by the industry. However, the State's not able to enforce the vehicle standards until the EPA issues a waiver for the California program,

because they all fall back to the California standards. The EPA is literally sitting on their hands on this waiver and California filed a lawsuit against EPA to jump start the -- not jump start, to force EPA to make a decision of either yea or nay on the waiver before the end of the year, New York State decided to file an intervention of that lawsuit. But until California gets a waiver, there are eleven other states including -- not including, but eleven other states along with New York outside of California that adopted these standards that are waiting for that waiver. So, if they grant it we'll be able to move ahead, if they don't, we can't enforce that aspect of the California, all the other pieces are under a waiver.

MR. WAFFENSCHMIDT:
How much of improvement will that cause?

MR. IWANOWICZ:
A 30% reduction from the average vehicle that's new. Obviously it's going to take about 12 to 15 years for the fleet to turn over. So it's, you know, a nice piece of the pie. Is it all we need to do in transportation sectors? No. If you look at the electricity sector carbon emissions in New York State, it's about 25 carbon equivalent emissions of the overall budget, 25%. The transportation sector is the third. So cleaner cars certainly make a difference, but we have to do a lot more in terms of investing in our transportation infrastructure.

We're starting to put some plans together to the Governor's office to think about how to tackle the rest of the transportation issues, but start with what you can get at with the regulatory handles you've got in front of you.

CHAIRMAN LEWIS:
Peter, did you just say that -- in one of the charts that we're going to work on is an attempt to put the electric generation CO2 numbers into a context so that we can see like home heating oil and vehicles and other categories. Are you saying as a general rule what you're finding is that electric generation is at the 25% range, vehicles are 30%?

MR. IWANOWICZ:
For all greenhouse gases, that's correct. About 25% of all the greenhouse gases submitted in the State are associated with it. Just look at the CO2, I mean, you're talking an equivalency with Flouride and (inaudible), but if you just look at CO2, it's 21% of CO2 in New York State.

MR. DAVITIAN:
Transportation?

MR. IWANOWICZ:
No, I'm sorry, that's electricity. So all greenhouse gases are 25%, CO2 only around 20, 21, 22%.

I know I'm rambling on too long. I go into details when I'm addressing your questions, but blame it on my Dad, he's a Deacon of the Catholic Church, he likes to ramble on, it's genetic.

Fifteen by fifteen, I won't get into the details of this but it's a Governor-led initiative that's reducing electric -- or energy consumption by 15% by 2015. This is an enormous proceeding that it started to take place in the Public Service Commission, it is involving lots of stakeholder people on how to go with this. It's called the Emissions -- I'm sorry, the Efficiency Portfolio Standard and it's, you know, a lot of information of the State Public Service Commission website about that whole process, and I'm sure there are people at the table that are part of that proceeding.

CHAIRMAN LEWIS:
Although we're not going to get into that today, but in general he's actually talking about a 15% reduction on estimated growth or the estimated number that we'll be at in 2015?

MR. IWANOWICZ:

It's 15% reduction, yeah, 15% reduction based on where we are now that includes business as usual. Business as usual goes up, we're trying to reduce 15% from where we are now, so it -- I believe it's like ten to 13% sort of what we're expected growth in that period. So it takes growth, stabilizes it to where we are now and drops it below growth. I'm sorry, Gordian.

MR. RAACKE:
So it is the low projector?

MR. SCHROEDER:
It's not 50% below the current?

MR. IWANOWICZ:
I think it's current levels and then it drops a little bit below that, because they're anticipating a certain amount in growth. So it does take into account business as usual. We're going.

We're to be working on local initiatives. Lois New is here, Lois is with our Programs and Partnership section and this is where we're going to be starting to work and hold community conversations with what is happening a lot organically. Part of that is to sit with you all and figure out how the Climate office could help provide data, resources, whatever you need to help guide your policy and decision making. But we're going to be working with communities around the state and bodies around the state to provide resources, technical resources from our science and analysis section to local initiatives that are happening, helping them define their carbon budgets and reducing their carbon issues.

LEG. HORSLEY:
Peter, is that governmental, working with governments, or you're talking about not-for-profits; what are we talking about?

MR. IWANOWICZ:
What we'd really like to do is look at the partnerships, because in some instances it may be just a governmental body that decided to reduce submissions, you know, by either the town board taking a vote and deciding to do this. In other situations like in the Hudson Valley, we're working with citizen groups, governments and scientists to come together in partnerships to not only deal with adaptation measures for climate change but also to look at the mitigation and reduction strategies going forward as well. So really, you know, we don't have one sort of separate sort of horse that we like to work on, we really like to see partnerships form around them, but we'll work with anyone to help with their CO2 emissions and also deal with adaptation.

CHAIRMAN LEWIS:
So you introduced the person?

MR. IWANOWICZ:
Lois will be heading that bureau. Lois New is our Chief for the Partnerships and Program Site, a program and partnership section, and Mark Lowery is on her staff as well.
One of the benefits I have in picking a lot of the staff to join the Climate team, I was able to go internally, as you can see, and really pick the cream of the crop. We took our time picking people, so I'm really happy to have two of the members here with me today. But we really have got a great team of people across the agency, they've been there for a long time, engineers, scientists, we pulled in an economist from the team as well.

Finally, citizens are demanding action. We're hearing a lot of citizens groups -- and I'm sure you are, that's why you're here today -- to deal with climate change on the local and statewide level. And we're also getting pressure in the SEQRA process by groups looking at why aren't we taking an approach that requires applicants when they come before the agency to do a greenhouse gas assessment under State Environmental Quality Review Act. If you look at the standard, the statute there, just like we have authority to regulate CO2, it looks like we have almost an obligation and a

requirement that we also require people, when they come in for a permit to the DEC, we'll be doing a greenhouse gas assessment as part of the process.

The Climate office in fiscal year '02 -- I'm sorry, 07-08, 12 additional positions, we have the Science & Analysis Bureau, we talk a little bit about the program and partnership. Science & Analysis, this is a skilled staff we have on board, there's also some legal support, we're going to have a dedicated sort of attorney that's slowly focused in on supportive climate office activities, drafting rules and ordinances and working with communities to help work with some of the legal aspects of what they may be get challenged on.

Programs and partnerships, a lot of community outreach, public involvement. We're going to be working internally at DEC across programs to place a climate lens on a lot of decision making. We're going to do a heck of lot about communications. We started to put more information on our website and we're really building our DEC website and turning a lot of the product that we do in terms of regulation into accessible materials for the general public.

I don't know if you've gotten a chance to see the RGGI rules, we put together a regulatory impact statement. There's a ton of great information in the regulatory impact statement, it sort of sits on the shelf unless people have some accessibility to it. A lot of the information is designed to support why we're doing the RGGI regs so it sits there, so we've hired some staff that are pouring through documents like that and putting in publicly accessible information for the general public and researchers, and we're also going to develop a clearinghouse of information across the state so that people can be funneling info to the DEC Climate Office, so we'll be making it much more accessible to the public. There's a lot of good info out there, we just have to make it available.

So let's get into the details of RGGI. As your newsletter has here, Neal, it's ten states, regional effort amongst them. It focuses on the power sector. There's a lot of confusion out there of what we're doing, this -- the RGGI rules is just power plants only. The draft proposal we have out there is 25 megawatts and greater and sources that aren't dumping much more into the grid. Say you own a factory like Kodak Park, they've got a big power plant, they're not fitting into the ISO markets, so anything, you know, less than 10% of that market is not captured by RGGI.

There are region-wide and state-specific caps. Region-wide is 188 million tons annual cap CO2, New York State is about a third of that, it's 64.3 million tons a cap. We've chosen to go the auction route rather than the allocation route for allowance distribution, we think it provides much more efficiency. It also provides some ability to bring back some of the resources that are going out for carbon analysis back into the system, you know, so that the general public can benefit from a slight increase from electricity prices to the resources going in to energy efficiency, renewable energy products after the proceeds come through.

MR. TEETZ:
Peter, when you talk later, or maybe now is the time, could you let us know how the auction proceeds will be distributed amongst New York. The ratepayers on Long Island, they have a tremendous burden in terms of how much they pay for their electricity and they would like to get their fair share back from the auction proceeds.

MR. IWANOWICZ:
Did you get that question down there?

MS. MAHONEY:
Yes.

MR. IWANOWICZ:
Right now, you know, there are two rules, there's the DEC rule that is out there that basically talks about the structure of the RGGI program, the reporting requirements. We allocate the emissions budget over to NYSERTA and they're going to be either auctioning or hiring somebody to auction on

their behalf the allowances. When the auctions take place, the proceeds, the revenue generated from such auction will flow back to NYSERTA. The NYSERTA rule doesn't delineate where the funds are going to go or for what purposes other than they'll go for energy efficiency and renewable energy projects. It doesn't break down any level of detail in terms of what would get funded under energy efficiency renewables or geographic outlay of funds, but we're welcome to comment. There are aspects -- the rule was proposed on October 24th and really there are a lot of aspects of this rule where we want a lot of public comments and one of the areas is with the NYSERTA rule, you know, whether we should get a level of detail, a specificity of how to spend the funds, you know, in any greater detail than just those general categories.

We envisioned the State to be very similar to the Systems Benefit Charge Project in that they would set up a working group involving DEC, Public Service Commission, NYSERTA, general public stakeholders, etcetera, to help guide that process. I didn't want to presume any one technology over the other.

MS. BRECHTER:
That was one of the reasons why no real detail was provided in that, because you were interested in getting people to comment on that.

MR. IWANOWICZ:
Yeah, I mean, I think there's two reasons why. As regulators, we want to have broad ability to, you know, decide the flexibility of the program and decide how much to dedicate to efficiency or not. We also wanted to have a body set up for stakeholders to provide us that type of input, like there are stakeholders for the Systems Benefit Charge Project. Also, you know, there are key aspects of the rule that I'll get into that are still open because we do want to hear from stakeholders. Auctioning is brand new to us, brand new to a lot of people around the table and we really want to provide the opportunity during this comment period to hear from people on different aspects, so.

People should view the RGGI rules that are out there on the streets, not a fete accompli or a final rule. They should be viewing them as an opportunity to provide the State to comment with key aspects of optioning.

MR. SCHROEDER:
Aside from allocating the funds, can you explain a little bit more about how that auction process would work?

MR. IWANOWICZ:
Yep, I'll get into that in a second.

MR. SCHROEDER:
Okay, good.

CHAIRMAN LEWIS:
And are the other states in more or less the same timeline? Like are they -- is each state reviewing the question of how to do the auction separately?

MR. IWANOWICZ:
Yeah, Massachusetts has already got rules that are out and their comment period is closed. Similar to New York's, we have a -- they have an agency, an Environmental Agency Rule and the Energy Agency Auction Rule. And Maine has got some of their rules out, not the auction component and Vermont has got a really short process because of an earlier statute.

All states are committed to doing a region-wide auction. The goal is to have the program obviously up and running by 2009. As many states that have rules and authority to do an auction mid 2008 will participate in that first auction. We don't think all will be done through their process at the time, but we think we'll be able to have enough critical mass, between New York, Massachusetts and other

states, to hold a successful first auction so that regulated sources and others who want to participate in the auction will have the ability to get allowances before the first compliance period kicks in in 2009.

I'll get into the rules and details in a little bit, but RGGI at a glance, I mean, it's a pretty important area. We get this question; well, why just the northeast? You know, the slide's a little bit outdated because if you look at the red, Pennsylvania is not in there, but we really want Pennsylvania to be part of RGGI moving forward and we'd like them to seriously consider being part because they're a big fossil player, a big whole player in the northeast. We'll have to see, will Pennsylvania join RGGI at some point or will they create something different maybe in the mid-west, we might hear more of that later this week. But the northeast in and of itself is a pretty significant piece of the U.S. pie as well as the world-wide pie. We typically lead a lot in terms of when you look at environmental regulations nationwide.

The requirements, as I mentioned earlier, they're kicking in in 2009. Stabilizes emissions included in current levels, and that's modeled in early oh -- 2002 levels, it stabilizes them so that there's no reduction in the cap of 64.3 million tons until 2015. Then in 2015, 16, 17 and 18, it steps down each of those years by two-and-a-half, so that's when the cap gets phased in and cut. This slide's a little bit incorrect in that 16% below business as usual and it's region-wide. So while we're achieving a 10% cut in the cap, over all by implementing RGGI we're going to get a 16% reduction in business as usual, from business as usual I should say, by 2019, in the absence of doing anything.

A couple of key aspects with RGGI. It's a three year compliance period, so sources have to report to us on an annual basis, but they have until the end of a three year period to populate their compliance account with tons of CO2 that they have either obtained from the auction or gotten secondary trading and secondary market. We do allow banking, unlimited banking, unlike the European Program where they didn't allow banking for a future compliance period. If National Grid wanted to go out and buy tons in the first auction, they have the ability to bank those for future years, they could use them in 2018, 2020. Obviously, they have to take into account the risk of intersection with the Federal program, but that's -- you know, the feature of our program is a little different,

MR. WAFFEN:
What if National Grid bought everything in let's say 2015 and they wanted to bank it, what happens to our generation and state?

MR. IWANOWICZ:
I'm sorry, bought everything?

MR. WAFFEN:
If they bought all --

MR. IWANOWICZ:
They got to 2015 and held an auction?

MR. WAFFEN:
Yeah, say it's 2015 and they bought everything in that year and they're assuming they're going to bank it for the future, how would that --

MR. IWANOWICZ:
There's a concept called {porting of allowances}, whether it's National Grid buying them or philanthropists going up there wanting to stave off climate change by taking all the credits. We're -- on October 26th, a research paper was released -- and if you haven't seen it, it's on the RGGI, "RGGI.org" website, there's a link to it. That research team that's been engaged by the RGGI process has been looking at how to structure an auction so you can avoid things like hoarding, or on the other hand collusion by different parties.

There's recommendations that they have made to the RGGI states based on review of literature, their understanding of how auctions operate, but also lab testing of various auction features within a lab setting to understand various variables and how players will participate and they've made a whole host of recommendations, I think 14 recommendations about how RGGI could structure an option to take into account things like hoarding. And one of the recommendations that they had out there was potentially limiting how much any one player can access it.

They've also recommended -- there's a whole treatment options so that there's not one chance for KeySpan or somebody else around the table to grab allowances. We would hold quarterly options and also provide the ability to potentially have a future allowance sales, so in that one quarterly option you could buy allowances for 2009 and there may be, you know, a slug of allowances going out for future compliance years as well. So we're trying to structure an option for better things like that. But again, the type of comment we would really like to hear during the comment period is do we have broad enough authority in the NYSERTA rule to guard against those things when we structure these quarterly options.

Any other questions on the options?

MR. SCHROEDER:
I was just noticing on the last slide that you stabilize emissions through 2014 and then reduce; does that mean reduce 10% or reduce based on 2014 as the base year?

MR. IWANOWICZ:
We have a cap right now of 64.3 million tons. And when RGGI begins, you know, implementation in 2009, that New York State cap will stay at 64.3 million tons until 2015, then the cap gets reduced two and a half percent for 2015, 16, 17 and 18.

MR. SCHROEDER:
From that cap.

MR. IWANOWICZ:
That's correct.

MR. SCHROEDER:
Okay.

MR. IWANOWICZ:
Yeah, it's not on, you know, the projected emissions of time. Basically that emission level gets capped right away. So you cap the emissions, there's no growth in the emissions from 2009 until 2014. Starting in 2015, that's when we shoot it down to achieve an overall 10% cut. If we didn't do anything region-wide, the emissions would be 16% greater than that. So even though we're reducing it by that, business as usual has an extra 6% piece of it, so that's why region-wide we have that 16%.

MR. SERATOFF:
Can the Federal Government interfere or put the brakes on any of your actions or encourage you?

MR. IWANOWICZ:
Yeah, that's becoming, you know, obviously a big concern. If you look at the original governing principles for RGGI, that's the Memorandum of Agreement that was signed by the Governors of the States in December of 2005, in Massachusetts, Rhode Island in early 2007. If you look at that, RGGI always anticipated this to sort of lead the train of the Federal program, and we would reserve the right to examine a Federal program if one was created and decide which one made more sense.

Obviously a preference is with Federal {strapping}, but we don't want to be preempted, we want to have the ability to determine if our programs are more protective than their ability to decide if RGGI should now sunset. So we are, you know, working that message real-time. We have the hearing today in Washington on the Leiberman/Warner Bill which we think is problematic in that area in terms of Federal preemption.

Another aspect that we've heard about and want to hear more about from regulators is what do we do about allowances in the unlimited banking? You know, should the State guarantee that we'll pay back sources if they bought an allowance in 2009, they banked it in 2018 but a Federal Program comes and supersedes RGGI in 25, what do we do about things like that? Can we be communicating with Federal emissions if they should take into account early adoption, early actions by RGGI participants and basically allow those RGGI allowances to be used in the Federal scenario. So those are the type of things that we can't crystal ball them, but stuff that we're watching. Questions?

MR. IWANOWICZ:
Okay, Monique?

MS. BRECHTER:
I'm sorry, just a quick clarification. You said you're worried about Federal preemption or --

MR. IWANOWICZ:
Yes. The Leiberman/Warner Bill has language in there that it appears that we're preempting RGGI at this point.

MS. BRECHTER:
Okay.

MR. IWANOWICZ:
So we're working with, you know, Senator Leiberman's staff to try to draft language that it wouldn't preempt RGGI, you know. Because some could consider RGGI to be less protective than the Leiberman/Warner Bill; you know, we'd like to be able to make that determination for ourselves.

MS. BRECHTER:
You would like to reserve the right to either defer to a Federal scheme or continue on with a less protective Federal scheme.
MR. IWANOWICZ:
You mean a RGGI scheme that may be viewed as less protective because of the whole--

MS. BRECHTER:
No, you don't want the Federal to preempt you, you want to have the ability to decide whether you opt in to Federal or not.

MR. IWANOWICZ:
Exactly.

MS. BRECHTER:
So in one scenario RGGI could continue on with a Federal scheme.

MR. IWANOWICZ:
It could.

MS. BRECHTER:
Okay.

MR. IWANOWICZ:
You know, Ideally it's a cumbersome scenario for us.

MS. BRECHTER:
Yeah, us, too.

MR. IWANOWICZ:
And I think the program would be great and we prefer that, but I think the decision should always be left up to the states. It's sort of like a major tenant on the Clean Air Act, is that, you know, there are very few places in the Clean Air Act where states are preempted. Motor vehicles and fuels is one of those scenarios, you know, but the power sector states have always traditionally had the ability and the right to go deeper than the Federal Government and we'd like to retain that right.

Auctioning allowances. You know, this is the broad brush strokes, we've already gone into some of the details. The MOU specified that a minimum of 25% would be, you know, public benefit auction, most states will be moving and gravitating towards 100%. New York State does have a couple set aside, so we're at like 96% and change, we have a small set aside for the voluntary renewable energy market, a little bit bigger set aside for generators who find themselves under a long-term contract that doesn't allow for {reopening or reoverage}, things like RGGI. Those taken together is about 2.2 million tons, 700,000 tons and 1.5 million tons respectively, but we're pretty darn close to 100%. And I think you'll find across the region the majority of the states, if not all of them, will be moving towards that 100% regime, but they'll have different sort of allocations.

The purpose for the 100% auction, you know, a lot of people think the State's just in it to make money to dump it into their General Fund, you know, off-site property taxes, but the purpose is to absorb value to the program and promote the goals of the program. By using NYSERTA as our auction entity and the revenue is going back to NYSERTA, it's not comingled with the General Fund. Those revenues will stay out of the General Fund and they'll get back into that process. So we do have a high degree of confidence in NYSERTA's authority to do that and also it gives us a high degree of confidence that the resources generated from an auction truly will get moved back into energy efficiency. It won't get lost into the General Fund shuffle of property tax relief or what have you.

MR. TEETZ:
Will {RND} qualify to get part of that revenue or they have to be projects that will truly in the short term provide real relief?

MR. IWANOWICZ:
To be determined, yeah. I mean, we're open to hearing what type of {RND} measures come into that. You know, some have come to us with a road map for solar in New York State. Should New York State spend more money in deploying solar, or really up the anti on resources to {RND's} last report, given the Federal dollars.

We're open to comments. As I mentioned earlier, we have engaged a research team that's University of Virginia Researchers with Resources for the Future, and we've asked them to look at a couple of key issues where they design and come up with recommendations for the design. And recognize that this is just another set of data that we look at, we're not bound and beholden by the research team recommendations, but they are a good piece of data for us to have. First is provide allowances; second is prevent pollution. We talk a little bit about hoarding, but you really want to structure an auction that minimizes volatility. We think a quarterly auction approach might do that, some have suggested recently that a monthly auction that attracts the ISO markets might be the way to go, you know. So those are the types of things. But our goal is not to maximize revenues and it's not to, you know, balance the General Fund type of stuff.

Another thing that we didn't ask the auction design team to look at but it's a concern of ours is obviously secondary market in training. Once an auction takes place there will be allowances out there. A bank may decide to participate in the auction to buy allowances for speculation of the price going up, and there's going to be a lot of secondary market issues. Invest -- oh, I'm sorry. We

heard from entities like New York Mercantile Exchange, Cantor Fitzgerald and others that they'll be setting up training classes to buy and sell RGGI allowances going forward. So it's something that all the states are concerned about is how, as environmental regulators or agency regulators, how we aggressively monitor that secondary market. Do we rely solely on the internal marketing monitoring that's done? Do we need to engage in the Independent System Operator in New York to help with some secondary monitoring? A lot of different concerns we have. Yes, Mark?

MR. SERATOFF:
This is very timely; I sent around this morning a lengthy article on the public markets on carbon trading. It's in Blumberg Markets, if you want to go to the website directly, but I also sent it out the CC mailing list.

MR. IWANOWICZ:
A lot's going on, we heard from some traders that are already, you know, doing future trading on RGGI offsets. So we expect the secondary market to arrive, but we're not sure how robust it will be; the numbers will see after that conditional option goes up.

LEG. HORSLEY:
Is anybody excluded from the process?

MR. IWANOWICZ:
Right now our preference is to hold an open auction, and that's one of the final recommendations from the design team report is to hold open options, because closed auctions have a high degree in their research for pollution. There's -- if it was solely generators only, but their research shows a lot of opportunities for pollution amongst those to keep prices down. Also, you could run into the situation where (inaudible) are going and buying a lot of allowances and trying to hold them over majority generators.

LEG. HORSLEY:
True.

MR. IWANOWICZ:
A lot of issues like that. They're recommending that we go with open auctions. The NYSERTA rule retains the right to have open or closed auctions. Say we hold a couple of open auctions and we find that outside players, banks or even, you know, municipalities outside of the RGGI region or others who have adopted, you know, a climate neutral stance who are trying to reduce their carbon footprints go in and buy these allowances because there's a high value to them, if we find a lot of that happening then we can decide, well, the third quarter maybe we'll close it to generators only. So, you know, the NYSERTA rule allows that flexibility.

LEG. HORSLEY:
So municipalities can buy these.

MR. IWANOWICZ:
Yeah. I mean, they've set the small -- you know, they have recommended, the auction design team recommended that we do sort of a thousand ton slots. But if you, you know, say that for argument's sake the price was a dollar a ton, the municipality wanted to go in and buy a thousand tons to offset their carbon issues, wanted to register with RGGI and provide the financial instance to show they could pay fort i, then sure, they could. School kids could ban together and do this type of stuff, philanthropists, again, or compliance entities.

LEG. HORSLEY:
Hedge funds.

MR. IWANOWICZ:
What's that?

LEG. HORSLEY:
Hedge funds.

MR. KALB:
Is there an estimate on the revenues that are generated?

MR. IWANOWICZ:
You know, we don't. I mean, the model shows that RGGI allowance prices will be around $2 a ton in the initial years going up to like four and a half dollars a ton in the next sort of -- not the end of -- sort of the end of the production phase, 2018. You know, that would be estimated, so, you know, multiply those out by a budget, you're getting anywhere from 120 million to 424 million, you know, estimates.

The one thing that might drive revenue in sort of their early options, they did strongly recommend states developing and adopt a reserve price, sort of let the bidding begin at type of concept. So, you know, a state would set some type of a -- we won't sell allowances and be a particular price. Yes?

MR. SCHROEDER:
Recognizing this is a regional greenhouse gas initiative, the reduction, the emission reduction level, were those -- I just want to be clear; those are on a regional basis or on a power plant by power plant basis or on an intra-regional basis? It seems to me one way to limit the potential downside of the bidding process, of the auction process is to limit an allocation, you know, say for Long Island, Westchester, Upstate, New York, just so that way you can't oversubscribe to the auction process without actually making real headway on that local level.

MR. IWANOWICZ:
Two things, first is a region-wide cap that also gets reduced within that time period and then each -- within that cap, each state splits up the 188 million and some odd tons, New York's share of it is 64.3. So there's a region-wide cap and each state has a specific cap. We're going to have to work very carefully with the states in the region-wide auction to determine how many allowances each state is required to put in at any given auction, which also will determine, you know, availability on sort of a quarter-by-quarter basis. So that will sort of govern how things happen within the RGGI region.

MR. SCHROEDER:
Is attainment/non-attainment area status going to play into this at all, no?

MR. IWANOWICZ:
Not at all. You know, it's not like a criteria, pollutant CO2, it's an air pollutant but it's not a situation where you have to get additional allowances because you're in a severe non-attainment area, like you would if you were going to offset growth.

MR. SCHROEDER:
But if you're in a non-attainment area and you're purchasing credits, you're not helping to improve the air in the non-attainment area.

MR. TEETZ:
There's another program that deals with those non-attainment pollutants, this is strictly CO2.
MR. IWANOWICZ:
Yeah, I know what you're getting at. It's sort of like saying, "Well, instead of offsetting our emissions," its a little bit different than that sort of situation where you have an offset for non-attainment pollutants. As Bob indicated, there are reduction programs for nitrogen oxide and

sulfur oxide that will lower those levels. With CO2 it's going to be based on your actual emissions. So you report your actual emissions and at the end of the three years you have to show to the department how you bought enough CO2 tons to cover your actual emissions.

MR. SCHROEDER:
Is there any correlation -- I'm not an expert in that area. Is there any correlation between high nox-emissions and high CO2 emissions?

MR. IWANOWICZ:
Sure, and it's actually more a correlation of fuel type. You know, coal has a greater -- the data that you have out here, I don't know if it's broken down by fuel type or not, one of the sheets here -- yeah, average US coal-fired -- in chart number four you can get a sense for CO2 related to fuel use, coal obviously being the highest, oil being the second and natural gas being sort of the cleanest when he talks about CO2. So in terms of fuel use, yeah, there's a correlation and there's a measure of efficiency as well.

MR. SCHROEDER:
But if you're concerned about how to monitor and police this, or if you're working on tools to do that, wouldn't that be one way of sort of having a self-limiting factor, if each regional entity was capped at a certain level on the basis of their --

MR. IWANOWICZ:
Every state rule under the model rule is going to require an emissions report, so there would be, you know, a region-wide database of emissions reporting and we'll also track allowances, you know, who has allowances. So that's going to happen on a region-wide basis.

In New York, every source that's subject to the RGGI Program under our proposed rules will be required to report to the agency on an annual basis their emissions, they do that every year. And at the end of the three year period, what we call a compliance period, they're going to have to prove to us that they have purchased enough allowances, the CO2 credits, either at an auction or through the secondary market, to cover their emissions. You know, if they've got excess they can sell them to others who are short.

MR. SCHROEDER:
I guess that's my concern. If you're able to purchase enough to cover your emissions, then you have no incentive to reduce your emissions.

MR. IWANOWICZ:
Well, not for CO2 but other pollutants you do. There are requirements, you know, for nitrogen oxide and sulfur oxide, the cap, there are levels of emissions there as well. Your incentive is really you've got to pay money for the CO2, so it's a big financial incentive where this is, depending on your perspective, to reduce your CO2 emissions. And remember, over time the cap gets tighter, so there would be fewer allowances to go around over time, and that would start to reduce the CO2 emissions going forward. Any new generation that comes in to build a new plant, that obviously -- you know, there's more players now in the region vying for the limited pool of allowances.

MS. BRECHTER:
Question for you on the three year compliance period. In something I read it said that there would be a true-up every year, or is it really just a {true-up} that you could theoretically buy all the allowances you need the day before you have the three year true-up, or do you have to have some kind of evidence the first year, the second year, the third year that you have something?

MR. IWANOWICZ:
Not really, it's at the end of the three years, that's when the compliance period ends.

MS. BRECHTER:

So you don't have to evidence any compliance until the day before.

MR. IWANOWICZ:
I mean, LIPA and -- just for sake of argument, LIPA and National Grid could be working with the same energy broker outside of the RGGI emissions. You're not buying your own stuff, you're not participating in the auction, you're going through a third party vendor and they can be holding those allowances off until they're doing transactions and trades and screwing up who they want to buy and sell. But at the end of that three year compliance period, you buy all your allowances from the third party broker, if you will, which populates your account. We know that the allowances are out there, we're doing our best to track who bought them in the auctions, but we don't know who's buying them for who and how they're going to be used.

MS. BRECHTER:
You really just --

MR. IWANOWICZ:
At the end of the day --

MS. BRECHTER:
You just need them in your pocket at the very end.

MR. IWANOWICZ:
At the very end of the day when you have to show the agency compliance, you're going to have to populate your compliance account. Every year you have to report your emissions so we'll know what you're doing every year and we'll have a good sense on an annual basis what your emissions are, so at the end of the year it's an accounting mechanism.

MS. BRECHTER:
Well, that's what I -- I guess that's what's confusing me. Every year you report your emissions.

MR. IWANOWICZ:
Yes.
MS. BRECHTER:
But you don't say, "Okay, I emitted ten million tons and I have ten million other tons."

MR. IWANOWICZ:
No. We picked the three year compliance period that helps you for, you know, those summers that are really hot and the winters are really cold, you have to opt for oil. So we didn't want to be, you know -- it goes to the volatility of our --

MS. BRECHTER:
Sure.

CHAIRMAN LEWIS:
We'll get a question from Gordian and then from Harry and then from John.

MR. RAACKE:
Just to grasp this, just to take as an example, we have some numbers here, let's just take 2000 --

CHAIRMAN LEWIS:
You're looking at chart one?

MR. RAACKE:
2006, chart one, right? Let's just call it 5.7 million tons and I guess you said was ten million tons and (inaudible). We're saying every year to cut -- 30 million tons over a three year period, right? So if I was National Grid, I would now have to buy allowances for those 30 million tons.

MR. IWANOWICZ:
Right, if their emissions sort of stayed this level and we assume that over a three year period, yes.

MR. RAACKE:
So until 2014.

MR. IWANOWICZ:
It's actually a three year compliance period, so it's 2009, 10, 11.
So at the end of 2011, that's when the compliance period ends, you've got until March 1st to populate your account, see that you've bought enough allowances for that three year period to cover your actual emissions. We know what your actual emissions are because you've got to report them to us.

MR. RAACKE:
Okay.

MR. IWANOWICZ:
So you're compliance account has to be filled at the end of that compliance period with enough allowances to cover your actuals.

MR. RAACKE:
Okay. Now, what happens in 2014 when this is --

MR. IWANOWICZ:
Your actual emissions are actual emissions, but now you're competing for fewer allowances.

MR. RAACKE:
The number of allowances will be --

MR. IWANOWICZ:
Decreased.

MR. RAACKE:
It was 64.3 and will now be 10% less?

MR. IWANOWICZ:
Yes. So starting in 2015 --

MR. RAACKE:
They will be more expensive.

MR. IWANOWICZ:
Right. So either you've got to figure out how to be more efficient in your operations, you know, handle your fuel situation more carefully or move towards repowering, there's different options.

MR. TEETZ:
Or maybe by then there are some renewables that get built that take up a greater percentage of the total demand, so that fossil generation portion of the total demand will be decreased so that, you know, there's just enough allowances for however many possible megawatt hours are produced.

MR. DAVITIAN:
(Inaudible).

MR. RAACKE:
Now, some people have said that the total allowance, the 188 I guess, 188 region-wide, may not

materialize, that the cap is set at too high a level. If that were to happen, how do we deal with that?

MR. IWANOWICZ:
Well, in the -- when the original cap was set, it was anticipated that, you know, it might be a little bit bigger but we weren't exactly sure where emissions were going to go, so it's a little bit of both. The cap itself is already above 4% over, you know, what you would assume actual emissions are. We also -- and the argument is, "Well, the cap's too high," actual emissions are going to be significantly less than the cap. So two things, you're not going to really achieve any reduction in greenhouse gas emissions, because actual emissions are far below than what the modeling shows. And the other extension of that argument is that because there will be so many allowances, the auction price won't really generate any revenue.

We have built in to the RGGI Program a review of all the issues, cap included, after the first compliance period. So we'll be working until that person finds to assess where the cap is, do we need to type it, is it too loose. Indeed, if the government's assessment is 15 X 15 initiative, we may have to revisit that.

The other thing, too, is you have to know that there's a need for flexibility in the cap if you have a massive transmission constraint or if a nuclear plant gets shut down and all of a sudden you need a lot more fossil to pick up the slack because if efficiency hasn't kicked in or you don't have enough renewables in the system yet. So there's that aspect of the cap as well, you know, that we have to at least be cognizant of before we set anything, take those types of things into account. So we are being criticized by the environmental communities for having a cap that's too high based on what their actual emissions are, but we're having a robust debate and discussion, you know, is it 5%, 10%, so there's a lot of number crunching going on to look at the cap and how long the cap might be, if at all.

MS. BRECHTER:
Or as the fuel prices change, too, then your cap might not be that long.

MR. IWANOWICZ:
Yeah. Right now, oil is through the roofs so people are on natural gas and there's a cold winter and the PSC calls for an interruptible and you can't burn gas down here, you burn a lot more oil. So things can't switch on a year-to-year basis, depending on the fuel price, etcetera, as well. That's why, again, the three year compliance period.

CHAIRMAN LEWIS:
I think we have a bunch of questions. Harry?

MR. DAVITIAN:
How do you deal with generators outside of the region? Obviously generators of individual subjects to the RGGI and they have to buy allowance, but generators outside of the region who are a generating municipality, what happens to them and how do you monitor that given that some of that power is on a spot basis and it's not something ahead of time and so forth.

MR. IWANOWICZ:
Yeah, the question was about how you manage the leakage of electrons to non-RGGI states and the importation of that power that results. The big issue for us in RGGI, particularly the PJM power tool, we've got big players; New Jersey, Maryland, you know, and Delaware, in that sort of mix. Two ways, obviously, we have to assess it. There's no one strategy you can put in place to stop it from happening because we don't know if it's going to happen or if an importation of power is going to be the result of RGGI versus something else. So we're working with the ISO's and those in the three jurisdictions, New England, New York, PJM to try to set some monitoring in place to, one, assess in the early compliance period if leakage is happening. And then the translation of that is is it a result of RGGI or is it because situations like you have a drought so there's less (inaudible) into the region,

where that's not really related to RGGI CO2, but it's certainly an issue of concern.

In New Jersey there's also a statutory requirement that the agency there adopt some type of measure, whether it's an emissions portfolio standard or something else that says to the low-serving entities, "You have to take into account your portfolio of generation you're buying from when you're complying with RGGI." So that's one aspect that they're grappling with, how to do that. So we know it may be an issue but we don't know the extent in New York and elsewhere, so that what we're trying to do is set up mechanisms with the ISO's to monitor how much has happened, has there been an increase.

MR. DAVITIAN:
Does RGGI apply to the retail supplier power or to the generator.

MR. IWANOWICZ:
No, these are the generators.

MR. DAVITIAN:
But so now you've talked about --

MR. IWANOWICZ:
Right, that's the New York law -- I'm sorry, that's the Jersey law that would extend that so that then the low serving entity would have to have some type of requirement or some type of relationship, if you will, with their generators, so they would be buying from generators that are obviously cleaner.

CHAIRMAN LEWIS:
This might be an example of one of the areas that get confused with this stuff. But we do know PJM is in the game now in terms of Long Island, so we do know power will be coming to us by cable and some of that may be coming from Pennsylvania or New Jersey.

MR. IWANOWICZ:
Or it could be coming from New Jersey's new plant. That's some of the things for us to try to assess, the level that we can determine importation has happened in the RGGI regions and then figure out the mechanisms. There is a draft leakage report that was developed by a work team, a RGGI team that looked at, you know, the potential for this and they said it could be a problem, the extent of it we just don't know. However, mechanisms liked increased energy efficiency are ways to mitigate the need for importing more power. Obviously, if we're able to cut our energy consumption by 15% by 2015, our needs in New York import (inaudible).

CHAIRMAN LEWIS:
Yeah, but won't the imported energy be cheaper if they're not complying with RGGI and they're coming from outside sources? So, I mean, would RGGI encourage more -- would RGGI effectively make that dirtier energy cheaper?

MR. IWANOWICZ:
It could. One of the things is obviously physical limitations for importation, there's only so much you can wield through those systems.

MS. BRECHTER:
And also where we -- like the Neptune Cable Landfalls and PJM, there is also transmission constraints in that particular area which we're actually studying a little bit because I'm not sure that we're actually (ianudible), we're certainly not getting power from West Virginia. And there are constraints right in New Jersey that really limit -- we're paying the price in New Jersey, we're not

paying Pennsylvania prices or, you know, West Virginia or let's say other far reaching prices, we're paying New Jersey prices, which is heart wrenching.

MR. IWANOWICZ:
That's a good question, because leakage is one of those issues where, you know, it has the potential to be an issue, we don't know the extent so we're trying to set up monitoring mechanisms.

MS. BRECHTER:
And the Neptune cable is obviously a key leakage questions, so we're looking at that a little bit.

MR. SCHROEDER:
But the limit of leakage actually is going to create upward pressure on the NYMEX influence on the price, the auction price which is going to flow to ratepayers, so we have NYMEX influence on fuel pricing for generation, NYMEX influence on auction pricing for allowances.

CHAIRMAN LEWIS:
I have two people that had their hands up, so I want to be fair and get their questions in. John, did you have a question?

MR. WAFFENSCHMIDT:
I actually -- that was Harry, but I'm going to take the opportunity. Fifteen by fifteen and the impact on greenhouse gases, have you looked at, you know, as a particular model the man-based pricing scenario and what effect that might have to accomplish the 15 by 15?

MR. IWANOWICZ:
I think that's part of the mix and what the State Public Service Commision is looking at it in their proceeding but, you know, RGGI isn't directly sort of involved with that.

MR. WAFFENSCHMIDT:
I only snuck it in because you had 15 by 15 there, but if it's not appropriate --

MR. IWANOWICZ:
No, it's just, you know, obviously our concern within the RGGI would be what 15 by 15 will do to a potential cap. But I know that there's a whole proceeding looking at that whole issue, basically going back to the early 90's, mixing that with (inaudible).

MR. DAVITIAN:
(Inaudible).

MS. MAHONEY:
I'm not getting it, I'm sorry.

MR. IWANOWICZ:
The question he had on the table was the RGGI regime, could it be an incentive for power producers to move towards nuclear energy because of the issue of being less CO2; you know, it may. People may find different strategies to reduce CO2. But remember, nuclear is extremely expensive, it takes a very long time to go through any kind of a site process, not to mention the community human cry about trying to site a plant particularly downstate. Is it the best way to boil water? Probably not. You know, we think efficiency and renewables and other thing can offset anybody who needs to go in that direction, but clearly there's a big discussion that's going to happen in this country about what to do about generating electrons and how to do it, you know, in a regime where you might see a nationwide cap on CO2. I can't tell you what, you know, any of the components whether it's fully on the table or fully off, but it will be part of the debate going forward.

CHAIRMAN LEWIS:
Mark?

MR. SERATOFF:
There was just mention of the new Neptune cable, the implementation, is it 1,200 megawatts now, Monique?

MS. BRECHTER:
Six fifty.

MR. SERATOFF:
Is there another one that will be coming, another 600?

MS. BRECHTER:
No.

MR. SERATOFF:
So with the Neptune Cable, cables are bi-directional. Is there any scenario, any concern where, for example, we would be exporting power to PJM or somewhere else and, therefore, our power plants will be working harder; is that possible or is that a concern?

MR. IWANOWICZ:
Maybe some of the industry wants to comment on that rather than me. I mean, I guess theoretically, you know, 15 by 15 came into play and it was excess power and people wanted to reel it elsewhere and sell it to other markets? Theoretically, that could be, you know, a situation that would arise in 2015.

MS. BRECHTER:
It was supposed to be driven by economics, really. You know, if we can sell power to them and they want our power, it's cheaper than theirs, and be driven by economics.

MR. IWANOWICZ:
But keep in mind, whether it's leakage or that situation, criteria emissions are capped. CO2, obviously, could only go up to the cap, but overall criteria pollutants, not asbestos and in time mercury, those levels are going to be capped. So, you know, whether it's leakage that leads to more power being reeled in from Pennsylvania, it's not like public health is going to be impacted as a result of that. CO2 might not go down as much as we wanted, but emissions waffling in that affect public health, those are already capped. It's not like we're going to have huge levels of ozone as a result of RGGI or exportation of power, they still have to abide by all the other regulatory caps.

MR. TEETZ:
Basically, what we have now is a system where the cheapest generation runs most, and that doesn't necessarily mean it's the cleanest generation that's run the most; right now it's the dirtier generation that runs the most. What RGGI will do is they'll put a price on that carbon component and begin to change the economics a little bit such that hopefully the cleaner generators will run more and the dirtier generators will run much less, and it's all going to be dependent on what that type of carbon is.

CHAIRMAN LEWIS:
I know you want to get into the office, but do you want to just say anything more about the price issue? I understand there's going to be --

MR. IWANOWICZ:
Yes.

CHAIRMAN LEWIS:
There's going to be a per-ton price for these allowances --

MR. IWANOWICZ:
Uh-huh.

CHAIRMAN LEWIS:
-- that a generator can purchase on this market.

MR. IWANOWICZ:
By an auction for a secondary market.

CHAIRMAN LEWIS:
And then the notion is that the cost should be high enough that it motivates them to want to consider other ways to do this, either by making a plant into a combined cycle plant or by investing -- I'm not sure actually whether renewables come in as offsets or whether they would come in right in that context where they might say, "We'll ramp down the plants and put some renewables into the mix," or something like that. But isn't it key that if the cost isn't high enough, the plant would still just keep operating? Because it's a lot cheaper to operate an old plant that has all its bills paid and is existing for many years, so wouldn't the number have to be pretty high?

MR. DAVITIAN:
You've gone backwards, the market in terms of price, not the price throughout the market. The market -- the price arises out of how much people have to pay to accomplish the cap. So you set the cap and then people keep bidding and buy enough carbon, the price goes up and up and up and up and up; it's whatever the market price is.

MR. SCHROEDER:
But that's what -- that also assumes excess capacity where you have competition for that capacity and, you know -- and you could shop elsewhere. So if someone is doing a good job at reducing emissions and they don't give the buyers any credits, they have cheaper power available. So where you have a captured market like we have here, that becomes a direct pass-along to consumers, so it's kind of hard to say that it's going to force improvements.

MR. DAVITIAN:
Why do you say that? If people recognize --

MR. SCHROEDER:
Because KeySpan --

MR. DAVITIAN:
If people recognize that the price at the existing plants are going to go up and up because they're going to have to pay more, there's going to be an incentive to build more plants for renewables.

MR. SCHROEDER:
I don't dispute that. I'm saying the cost of the new infrastructure -- well, I just think that here on Long Island, we have some other issues that -- well, I'll talk about it off-line.

MR. DAVITIAN:
Unless you free up the cap, the cap is going to function, by law, and the cap is a cap is a cap is a cap. And people are going to find ways of producing that power or not using it that are going to recognize the economic reality within the cap. The more generating efficient generation renewables or energy conservation, but it's only for politicians to say if we're going to abandon the cap, that cap is going to hold.

CHAIRMAN LEWIS:
Any comment on any of that, Peter?

MR. IWANOWICZ:
Just getting back to the original point. I mean, there are going to be winners and losers on the RGGI, it's designed that way, you know, to try to encourage cleaner generation and obviously lowering CO2 over time. You know, whether or not the price of allowances is enough with the disincentive, we'll have to see. If you look at wedges, in order to achieve the type of, you know, reductions that he anticipates under this wedge scenario, the Princeton Professor, he's talking $30 a ton of CO2. I'm getting some of the RGGI numbers and we're at, you know, two to four and a half levels.

One aspect of RGGI, and this may get a little bit complicated so I don't want to spend a ton of time because I know we're starting to butt up against your time limits here. One aspect of offsetting the price, if you will, the cost of RGGI is to allow for compliance entities to use offsets to satisfy a 3.3% of their commission in a given year. So offsets categories are things that -- there's five broad categories?

MS. NEW:
Yes.

MR. IWANOWICZ:
Yeah, land-filled gas recapturing where it was not required or business-as-usual practices, recapturing a {4-station} which means basically farmland with no trees on it, plant trees on it rather than -- management of sulfurhexafluoride which is a gas used by the utility industry for cooling purposes, and energy sufficiency with natural gas in buildings. Those are the five categories that RGGI has defined as projects that we will allow for offsets. One, because we didn't want it to end up in the wild west like a lot in the European Union ended up being criticized, and then the second thing is we really wanted this to be about reducing CO2 emissions, so that's why the limited categories. They're going to have to be reopened, they're going to have to be surplus, verifiable, permanent and efficient.

And I have to underscore every single one of those words as a New York rep working for the Governor that cleaned up Wall Street. This process is going to have to be real, they're going to have to be fraud-proof. And the verification procedures are going to be pretty tight in New York because it's not going to be a situation where somebody can come in and manage the market. I think everybody knows what Governor Spitzer did when he was on Wall Street, think about offsets in the same line; they're going to have to pass the Spitzer test.

The framework I just went through. There are two other aspects that also I just want to talk about and they deal with price. If the price of allowances gets about $7, and that's -- the price is sort of averaged over 12 months, it will grow from 3.3% of your budget to 5% in 2005. No, I'm sorry, when it gets to that level -- it's not pegged over here so I got distracted. So if it gets to that level then you use a greater percentage of offsets to satisfy your budget.

At 10% -- I'm sorry, at $10 it goes to 10% and the difference between the seven and the ten also is the geographic area. Under three and a half -- 3.3 and then 5%, offsets can only be obtained by a state that has a Memorandum of Agreement with the RGGI states, and the continuous United States. When it gets to $10 a ton it goes to 10%, we would also accept offsets generated by other UN sponsored programs. So it also spreads the geographics just to the futute to be more world--wide rather than just the US only. Any questions on that before I go on?
There's a lot of details in the regulatory impact statement.

What we've modeled for allowance prices, I've talked about this already. The important thing under our modeling is that no plants in New York or RGGI region are shut down and all State revenue policies. Some take significant hits on whether or not they're RGGI policies, but no one is in a situation where they're not revenue positive or revenue neutral.

If you look at modeled wholesale prices, the blue is if we capped only and didn't have any energy efficiency or any offsets going back into the system, what you would see, just a change in the energy prices going forward across the time table. By having the RGGI package in place, and the impact of carbon obviously is less in the cap, with efficiency built-in in offsets. So the energy efficiency aspects of RGGI combined with offsets really, we think are designed to control the changes in the energy prices over time.

What this translates into the average billpayer is about, you know, 78 cents for a bill increased in 2015 and a dollar and change which goes to 2021, so the price impacts are modest. And we also believe that plowing energy efficiency resources back and energy efficiency resources -- research -- I'm sorry, dollars back into the system coupled with a 15 X 15 initiative means that RGGI actually may have no impact on retail prices once we get more efficiency in place going forward; we haven't done the model on that.

Key dates. You know, some of these have already come and gone. Rules are up for public comment -- I'm sorry, this month, it's already November -- last month, on October 24th, you know, so the rule making closes later this year. Obviously the start date is January, 2009. There's an interest in expanding to other states. We may hear more on that later this week from the Midwest, you know, as they may be contemplating doing something in the Midwest, integrating with other programs. Governor Spitzer and Governor Schwarzenegger did have a luncheon, or a dinner actually, in the spring; during that dinner they agreed to explore staff-to-staff discussions to explore linking the western climate initiative with RGGI. Obviously that would expand the Carbon Cap and Trade Program in New York and elsewhere to other areas. And then of course we talked with it already the Federal Program, too.

I can't say it enough, and I hope you got this message, we want the comments. The comment period closes on December 24th, a great holiday I've got planned. Hearing dates; the 10th in Albany, the 11th in the Adirondacks, the 12th in New York City, the 13th of December in Western, New York. There's the weblink. It's really -- the web-link is fancy, but just go to New York -- dec.ny.gov, scroll down a little bit after the page loads and you'll see right there in the middle of the page the link to RGGI.

I won't spend any time on Climate Registry, only that if you participate in the Climate Registry, every state that's listed in green is a member of The Climate Registry; it's a voluntary effort amongst these states to gather input from reporting entities, they want to voluntarily tell the registry what they're emitting. It started in California, the trend is moving east, all these states are going forward.

Also, we adopted the -- signed earlier this fall, actually late last month the Governor went over to Lisbon and signed a declaration with European states, western states, specific Asian countries to start having staff dialogues about new programs going forward. Is there a desire to harmonize with the U.S. program or, you know, an Australian program over time. So the International Carbon Action Partnership was formed in late October. If you go to the website "Icapcarbonaction.com" you will more about this, and the details are pretty straight forward. There are staff level discussions about technical details about how to do cap and trade in various jurisdictions. Again, that's "Icapcarbonaction.com" is the website.

And finally, a shameless plug, my own kids. But I think that's what we're in for. Those of you who have heard my presentations on the Lung Association, I talk about the next generation, I think more so than ever with climate we really bear a responsibility over the next generation of grandkids, their pets and so forth, because we're doing a lot of decisions with some pretty weighty issues and we're grappling with policy and grappling with how to do without bankrupting economies. But at the end of day, I've got to go home and tell my kids why I talk about the things I talk about and I wasn't home reading them stories at night.

My daughter Katie is holding me personally responsible for the demise of the polar bear; if I don't

get my act together and do my job, it's my fault the polar bear is still extinct. My son Andrew is convinced I come down here to work with you because I'm really just planting trees on rooftops and painting things white. They're eight and six, they get this stuff, they're holding me accountable. You know, you have your image of your next generation in your heads, you know, go home today and every other day going forward with an idea of -- I know actually how we cut the right deals and work the right policies and adopt the right strategies to deal with clients.

Here's where I am, in case the details don't get around. And we want to hear from you, we want to hear about the partnerships you want us to help engage in, we want to hear about the data that you need, the resources that you need to help the decision making at this table and elsewhere as you go forward, we certainly want to hear your comments on RGGI rules and future rule makers that you want to put out there if we're dealing with CO2. If you've got further questions, if you want to talk about my kids, you know, here's where I am. The phone number up here is the general office, the Climate Office number, so if you've got questions, you want to get in touch with Mark or Lois or anybody else from the team. So ith that, I'll wrap and I apologize for going long.

CHAIRMAN LEWIS:
Not at all. We certainly got what we expected. I do want to ask sort of a policy question that was presented by your presentation, but thank you for the presentation.

Applause

MR. IWANOWICZ:
It's my pleasure. I thank you all for your patience and working through your questions wisely. You know, I presented at the Business Council, I know Bob Teetz was there and I was expecting a much more livlier debate and I was personally disappointed there wasn't a lot of of give and take and a lot of discussion. So forums like this is what I love. I'll have to figure out next year how to do my presentation, maybe a few more photos of the kids to get more discussion going or maybe bring my own ice cream, I don't know what I'm going to do. So thank you, I appreciate it.

CHAIRMAN LEWIS:
Legislator Horsley did a good job in terms of pulling together the names for this committee, there were appointments made by other people also but we got a big cross-section of different backgrounds represented on the committee. But, you know, we're struggling with this policy question which is that we want to do things that would encourage repowering of older power plants that -- you know, as the example chart shows, number four, there is a very significant difference between combined cycle and plants that don't have a combined cycle. So there's a sense in which there's an interest in terms of Suffolk County legislation that asked this committee to give recommendations to them on putting forth a policy that would bring these numbers down from these power plants.

You, know an obvious straight forward thing that was looked at a couple of years ago and actually was enacted was to say, "Here's a cap on the amount of CO2 per megawatt hour from power plants in the County of Suffolk," and the number that was arrived at was fairly high so it didn't really have a significant impact. So the obvious question was whether the Legislature wants to consider setting a lower number that perhaps phases in over a number of years or such, but essentially has the effect of forcing a combined cycle as the choice for repowering of existing clients either by eliminating some or however we get there. But how would that strategy, if that was considered by the Suffolk Leg, fit in to what you're doing in terms of RGGI; do you think it's at conflict with it, that the one wouldn't work with the other? Do you think it's the opposite, that one would help you enforce the other?

MR. KALB:
In other words, do you encourage this kind of thing or not?

MR. SCHROEDER:

On a local level.

MR. IWANOWICZ:
We don't have a sort of specific policy of the State, you know, current repowering over the other. What RGGI is designed to do and other environmental programs is really designed to cap and reduce emissions over time. And when you adopt a sort of cap and trade regime, whether it's at the comedy level or a state level or regional or a U.S. level, you're not engaged in the business of picking winners and losers in terms of technology and how people achieve that cap. What you're really saying is this is, you know, a carbon market approach to deal with CO2. You know, the industry engineers and the others that are out there can figure out how to achieve results of a declining cap, and with a trading regime you don't have to deal with it.

You know, a of couple of cautions you have to sort of look at. And I've been involved personally in a repowering effort, you know, in my town when I was at the Lung Association and repowering for that unit made a lot of sense, it made a lot of sense for the community, it made a lot of sense from a public health perspective and it made a lot of sense for the company itself. There was a big, geographic footprint where they could actually build a new plant on site. While they were building that plant, they had plenty of room to sort of, you know, operate the existing plant; the new plant is constructed, it's ready to go, they flip the switch and tear the old one down. That might not be the best example of repowering because they had a lot of real estate to work with and they had a community that wanted the power plant to stay there, but it's one sort of methodology that you could look at.

The other thing is, you know, fuel diversity. I was talking a little bit about it earlier, are there other ways to achieve CO2 reductions without picking one fuel over another. Because, you know, you are going to have to worry about price of energy over time, you know, in this type of regime as well, so these are the types of things that I think you need to grapple with. When it gets back to the core issue for us, you know, a Coounty specific or a regional specific, if you will, like a Long Island specific cap on CO2 can exist, we think, under a regime. Obviously, sources will have to comply with the Local Law just like it would have to comply with the RGGI regulations; it would be up to them to figure out how to do it, but it wouldn't be at conflict under that regime.

CHAIRMAN LEWIS:
Any other closing questions?

MR. WAFFENSCHMIDT:
One that keeps coming through my mind, when they tried dereg in California and it misfired, what if there's a misfire, what do you -- how do you react, what's the mechanisms?

MR. IWANOWICZ:
Well, we have two -- I mean, misfire in terms of the auctions or in terms of the program?

MR. WAFFENSCHMIDT:
Yeah, for example, there's not enough electrons to keep the State going. I assume that generally leads to a black out so you would do something.

MR. IWANOWICZ:
On the initial period we don't think we're going to run into any problems, you know, in terms of misfire. And the ISO did a series of analysis to say in order to ensure reliability in New York State, to ensure reliability meaning 52 million some-odd tons of CO2; remember, our cap is at 64.3. So that's just to ensure we don't run into a reliability problems under the ISO rules.

MR. KALB:
With current efficiencies?

MR. IWANOWICZ:

Yep, that's just sort of right now, that's sort of, you know, what their anticipation is. If we want to ensure reliability you need 52, but that doesn't take into account more energy efficiency going forward or anything else, that's kind of where we are right now.

So at the end of the first compliance period, we'll have that opportunity to assess the first three years, assessing whether or not we're going to have a problem. Certainly, if something really drastically happens, because as a State agency we can suspend enforcement of the rules, you know, suspend the program.

CHAIRMAN LEWIS:
Joe, let me do it this way. I'm going to do a quick go around, if anybody has a closing comment, preferrably not a question because we're kind of wrapping it up, but if you want to put a comment on to the table and we'll sort of leave the meeting at that point, but give everybody a chance to get a final word in. And we don't have a date for a next meeting, we're going to work on the committee, hammering out the data so that the next meeting would be to hopefully adopt the data and just complete that part of the committee's charge is I think where we're at, so we'll do e-mails to find out what date works for everybody. You know, it's funny, even at the end of this I can think of a bunch of other questions.

MR. IWANOWICZ:
Here's my e-mail.

CHAIRMAN LEWIS:
Yeah, there you go, the nature of RGGI, you could really dig into this. So if we can do a real quick go-around, closing comment, or if you want to put it in the form of a question, that works too.

MR. SERATOFF:
My comment has been printed in the current Long Island Business News on repowering, so it's available for your edification.

CHAIRMAN LEWIS:
Good stuff.

MR. SCHROEDER:
Yeah, Pete, just on John's last comment on the restart. Once the NYMEX gets involved in this, I'm wondering how much you control the animal and the animal controls, you know, the process. So I'm wondering -- I have a lot of other questions and I'd like to explore a lot of those more, but I think --

MR. IWANOWICZ:
Remember, we control the ability to auction off the allowances. If we decide that there's something wrong with the program, we can suspend compliance with it so, you know, NYMEX can be -- if there's no RGGI program out there, the buying and selling of trading, the NYMEX desk or Cantor Fitzgerald or anywhere else buying stocks.

The other thing, too, is compliance entities can come to the auction like anybody else and get their allowances there. You know, they're going to have the ability to bid like anybody else to get allowances in that initial offer, so it's not going to be dependent upon the rules and what's happening with NYMEX in order for somebody to get there. If they're short and they have to go to, you know, the secondary market, then that's the way they're going to have to move in that direction. You know, everybody is going to have that chance to bid in and by holding frequent options, obviously if you don't get what you need in that first quarter, clearly you've got to be more aggressive in the bid for the next quarter.

CHAIRMAN LEWIS:
I think part of what's going on is this discussion is almost an effort on our part to make RGGI really good, which is kind of your job but you're asking for our input in terms of comments and stuff, but I think in some respect that goes beyond the committee's charge. I think the other question is more of a policy question of how we work with RGGI and how we make recommendations to Suffolk that makes sense in light of RGGI. But I understand in the interest in trying to tweak it and get it right.

MR. SCHROEDER:
Well, especially if that preempts us from doing anything.

CHAIRMAN LEWIS:
Joe?

MR. MUNCY:
I just wanted to thank Pete for his presentation.

MR. IWANOWICZ:
Well, thank you. It's really been my pleasure to be here.

MR. STEBBINS:
Peter, it's good to see you. I'm just curious, the final public hearing for the RGGI, I didn't notice if there was a hearing for the Long Island region; is there any particular reason why or is it just because it would be covered in other areas?

MR. IWANOWICZ:
Yeah, we tried to geographically split them up. I mean, if there's a request for another one specifically out here, I suppose you could write to us and ask for it. But we tried to, you know, geographically cover things that way.

MS. NEW:
We can hold them in every part of the State, so.

MR. KALB:
Just a question; were there any other municipalities or counties with similar things?

MR. IWANOWICZ:
Yeah, there's a whole suite, half a dozen to a dozen or so municipalities who signed up for the International Senate for Local Environmental Initiatives.

MS. NEW:
Yes, it's called Civics for Climate Protection; I think we're up to 26 municipalities in New York State.

MR. IWANOWICZ:
So you've got municipalities, and New York City obviously is the most vocal out there about what they're doing to reduce their gas and there are a lot of other localities, mostly localities and towns that have adopted.

MR. KALB:
Is there information on the website that sort of summarizes that?

MR. IWANOWICZ:
Not yet, but that's what we're trying to build out is that --

MR. KALB:
We may want to take up --

MS. NEW:
ICLE's website lists all the communities so you can look up who's on the form.

MR. IWANOWICZ:
Yeah, that's iclei.org.

MS. NEW:
And we're really interested in each geographic part of the state to increase.

CHAIRMAN LEWIS:
Okay. Bob?

MR. TEETZ:
Yeah, I'd just like to say that the National Grid has been in favor of RGGI and we've supported it from day one and I've been working with these folks for many years now trying to make this happen. In fact, National Grid was the only utility quoted in the Governor's Press Release Plan when that was issued last month. And so we really -- we want RGGI to succeed, we think it's the best way to approach CO2 reductions, short of a national program, but we are pushing for that as well.

But I think the biggest opportunity for Suffolk County is when you think that the LIPA demand on Suffolk -- on Long Island alone accounts for about 16 million tons of CO2 very year; that means if allowances are $2 a ton, let's say, that's about $32 million that's going to have to be extracted from the ratepayer to pay for those tons associated with those emissions. We need to make sure that as NYSERTA develops the program for moving that money back into New York State and Suffolk County and Nassau County get their fair share of those energy efficiency funds to be put to work to reduce demand on Long Island. You know, I'm happy to work with the County and others to really put comments in to make sure that there's a mechanism to make sure that the ratepayer on Long Island gets his fair share back.

MR. IWANOWICZ:
I will reserve any kind of comment on that last piece other than to say we want to hear your comments. But I have to thank, you know, National Grid, Bob in particular, for stepping up to the plate and supporting RGGI in such a public way. Others were asked, they said, "Well, we like it but -- ". You know, they should be commended for taking that very forward approach and joining with us in a very public way by putting the company in the Governor's News Release, that was a pretty big important step.

CHAIRMAN LEWIS:
Good. Back row, Brendan?

MR. STANTON:
Just a quick point of information. There was a question at our last subcommittee about the lifespan of this committee; I double-checked, we are in effect until April 12th of 2008, so that won't be necessary to extend. That's it.

MR. MYERS:
Thank you also.

CHAIRMAN LEWIS:
Down at this end, Legislator Horsley.

LEG. HORSLEY:
Just quickly to thank Bob for his numbers, they were impressive, but also your comment about Long Island looking for its due -- its due bit. And the fact that I'm hearing from Albany that we're lumped in with New York City once again is always a concern.

MR. IWANOWICZ:
While we're here --

LEG. HORSLEY:
We are another region.

CHAIRMAN LEWIS:
Andrew, you look attentive to your computer so I'll let you go. Monique?

MS. BRECHTER:
Thank you, we really appreciate the information and you coming all the way down here. I know how hard it is to come so thank you very much, it was a very good presentation, it was very helpful and I appreciate all your efforts in this regard and look forward to working with you.

MR. DAVITIAN:
I just wanted a second point that was made by Bob and Legislator Horsley about making sure that whatever process comes about returns proper amount of resources for Long Island.

And I want to just comment on something else that came up several times, the issue of repowering. Those of you who know me have heard this before, but I wanted to say that I think the broader goal is to replace older power plants with newer ones to get accurate efficiency and environmental benefits, but whether those new power plants are on the sites with the old ones which is sometimes restrictive. The word repowering or build elsewhere -- wherever we can find that the new power plants are built out of the cheapest but they're done on time and most quickly with the least complications, I think that's the way we should accomplish it, and open bid is the best way of finding that out.

CHAIRMAN LEWIS:
Okay. It's just about ten minutes after, we did start a few minutes late, we're right in that two hour, two fifteen range. Thank you, everybody, particularly Bob and Monieque and the other people that worked on the data, John also submitted data. So hopefully we'll be sending out e-mails soon about scheduling a meeting, probably after the holiday at the rate we're going because the subcommittee is going to have to meet first to complete the data part of our process and then there's a little bit of a policy presentation before we move forward.

So if anybody has any thoughts or observations, please just send me an e-mail, you know, in terms of where we're going where the committee and the work involved, and we'll leave it there. Motion to adjourn.

MR. STEBBINS:
Motion.

CHAIRMAN LEWIS:
All right, we're adjourned. Thank you.

(*The meeting was adjourned at 4:10 PM*)
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