NEW JERSEY BOARD OF PUBLIC UTILITIES

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ENERGY MASTER PLAN STAKEHOLDER CONFERENCE: DATA ANALYSIS ASSUMPTIONS

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I N D E X

SPEAKERS: PAGE NO.

PRESIDENT SOLOMON: Good morning, everybody, and thank you all for coming.

There are just a couple of things I want to say, and I probably should mention them when the other Commissioners will get here, first thing, there will be as you know from the notice that you received a stakeholders meeting on September 22nd

and September 24th regarding some other issues.

At this stakeholders meeting we have allotted two hours. It is not my intention and I don't think it's the intention of any of the Commissioners to take up your time to comment on the Energy Master Plan.

It's our hope that we will listen and digest what you are saying, there may be some questions from time-to-time but this is your time.

Because of the number that are here and the number that may want to comment, if we run overtime we do expect to break about twelve, but that's not a hard and fast time, we will, if there are other people that wish to comment and they have not been given an opportunity to do so we will attempt to schedule a subsequent time when we can hear the balance of the comments if there are things that you need to say and you can't submit them in

writing and we need the extra time, we will attempt to do so, we will do our best to squeeze the time in for you.

Having said that, who will be the first commenter? The first will be Joe Sullivan, one of our Directors.

MR. SULLIVAN: Good morning. I would like to thank everybody for being here.

This is a very important process that we are working on.

What we are doing today is going over the

input and the process that we are going through, looking at the Energy Master Plan.

This comes as a result of, I am sure you have heard this before but I will repeat it, the recession that followed the issuance of the 2008 Energy Master Plan and the dramatic changes in cost for natural gas, oil and other energy inputs that are used for planning purposes and evaluating purposes that put us in the position that we now need to go back and re-evaluate and look at this.

On top of that we understand today the Governor will be signing offshore wind legislation which will firm up some information, firm up the process of where we are going to look atoffshore

wind.

Inherent in that bill as it was developed is that we are going to have to evaluate this and show it has a major economic benefit for the State which is a high standard for us to look at and it is also a high hurdle for the developers to come through. However, it is probably the most responsible economic policy that could be laid at our responsibility for evaluating and recommending.

That means that the original Energy Master Plan which said that we are going to get a thousand megawatts ofoffshore wind by 2012 is probably off, the current legislation calls for eleven hundred megawatts in the future but we will have to see how that all works out.

The other things that happened to

dramatically influence things is that, and you will see that in the presentation is that the cost of solar and some of the other components that go into this evaluation have come down significantly and we have gotten input from a number of different sources including people in this room, and we are certainly open to that kind of input as to what the costs are and what the projected costs are moving toward, so we are certainly trying to be receptive to this, we

are not trying to completely renew the Energy Master Plan.

What we are doing is we are looking at the cost inputs and conclusions, recommendations. We are going to have two more sessions, one on September 22 where we will be meeting and talking about the environmental and economic development aspects of the Energy Master Plan, and the 24th where we will talk about the proposed changes and adjustments or changes in the Energy Master Plan.

You are certainly welcome and we would hope to see a level of representation comparable to this at those two meetings also.

I would like to turn this over to Frank Felder from Rutgers. He has been crunching numbers like mad, there are a few more things we will be sending out.

One of the items we will talk about this morning is that we have a couple of graphs in here which include a estimated breakdown of electric and

gas, and we are trying to be as transparent and honest about the costs that go into this bill as humanly possible. Because I am both color blind and don't have the best vision in the world I need to bring out a list of all the component costs because

I can't follow the colors. Those will be made available also. Try to bear with us, we are trying to provide something that is easy to understand and see, at the same time we do have additional information that we will provide.

That being said, Frank?

MR. FELDER: Good morning, everyone. Just for the record, I am Frank Felder with the Center For Energy Economic Environmental Policy.

We have been working in conjunction with BPU Staff to pull together and the keyword on this document is draft, assumptions from a variety of sources, publicly available sources.

At any time whether it is today or later on, feel free to provide any comments or additional sources or suggestions. I don't want anyone to think that we are at the end of the process, we are just at the beginning, in fact there are some important pieces that aren't covered here. I will talk about them as we go. The idea is this is a work in progress, we want to be able to give folks a chance to look at what we are thinking, be able to respond and provide suggestions as we go through those things.

What I would like to do is take about

forty minutes or so to walk through a presentation and that way we will have about an hour or so for comments.

If any of the Commissioners have questions I will be happy to take comments as we go.

I would like to march through the presentation in a way that people have plenty of time to comment at the end.

So, what this presentation includes, it's a quick summary of the energy master, the 2008 document. It also includes a breakdown of what Joe alluded to, residential electric and gas rates. And we put the word rates in quotes because we are just trying to identify the pieces and putting in estimates where we could for various pieces for a residential "rate" in 2009 gas and electric, and that was the piece that Joe was referring to and I suspect later next week we will make publicly available and much more detailed description of exactly the components and how we got them because when you are planning on a power point presentation it is not as clear as it should be.

The third part of the presentation is to review some long-term economic assumptions and compare the 2008 assumptions with updated

assumptions choosing what we call the R/ECON model, that Nancy Mentelli (phonetic),an economist at the

Blaustein School runs, unfortunately she couldn't be here today to do the presentation but I will do that instead.

And then finally on the generation side developed a variety through looking at a variety of documents, estimate of costs of different generation technologies over time so it is a way to kind of bound possible cost estimates moving forward.

Before we begin, my academic union card requires me to quote myself. I would like to read something that we wrote in 2004, which I still never follow my own advice, projecting the future over a fifteen year period is a difficult exercise, it requires making assumptions regarding many key parameters that are inherently uncertain.

In 2008 we wrote a modeling report that accompanied the Energy Master Plan and we set a cursory review of energy events over the last several decades reveals that the unexpected is the norm.

We weren't even thinking about what happened between 2008 and 2010.

The other piece I want to emphasize as we

think through these various projections and their implications is I think the best thing that these data can help us do is kind of bound the problem, provide kind of a field of play, so to speak, and then the important policy decisions will be done within that context.

So another statement we wrote back in 2007

and 8 is that the purpose of a modeling is to be informative, not dispositive. So I don't want anyone to think that I am solving a calculus problem, I get the answer and that's the answer. That is the reverse. Hopefully we will set up the data and the information in a way that asks intelligent questions and then the process will work its way to get to the EMP.

Okay, just a quick review, the EMP had a variety of goals, if I think back to 2008, energy prices were extremely high, oil was about one hundred and forty dollars a barrel, natural gas was fifteen dollars an MMBTU, gasoline prices were about three fifty-four dollars a gallon, electricity prices like natural gas were very high as well, and you will see those.

So it was an area where there was very high energy prices. The economy was humming long

although there were murmus about some problems, we were actually in a recession in 2008, we just didn't know it until later in that year.

But in any event that context is very different than the context today.

So not surprising back in 2008 with high energy prices we focused on energy efficiency, reducing peak electric demand hours which had a large contribution as to the cost, to consider increasing the renewable portfolio standard, and to improve the development of our infrastructure.

Okay, with that in mind the next four slides are just a quick breakdown, I don't known if these lights only the side can be turned off?

There is a whole range of lights.

So the next four slides, and like I said we will provide a lot more detail hopefully next week publicly, just break down a rate.

Just notice the quotes on every page of the draft, a residential rate, and this started with the commodity piece, both for electricity and natural gas, so in the case of electricity it is from PJM, in the case of natural gas it is the commodity, the bulk is from Canada. We added in the transmission and distribution components and added

in a variety of other charges that are on customers bills, what we call state policy charges.

So they included the Societal Benefit Charge or charges, not just stuff that funds the Clean Energy Program.

We added in the regional greenhouse gas initiative, and there are two pieces for electric on the electric side. One is the actual allowances, so the allowances cost money which raised the price of electricity on the wholesale level, but there is also the RGGI legislation that allows the utilities subject to rules of approval to submit filings for various programs, so it is kind of two pieces.

So much of this work is clearly identifying the different components, defining them well and then going through the various utility

tariffs.

The utilities, both electric and gas have various charges and amounts, both the categories and the amounts vary, just for historical reasons or for reasons unique to the utility, so we kind of aggregated them. In other words, if we saw a charge on one electric utility but not on the other we weighted it by the number of customers, so they don't line up on the residential side, and I suspect

not on the commercial industrial side one for one. There is a little bit of kind of making a generic rate out of all this.

But as you go through this piece, probably the slide that is a little more clearer is where we categorize them, wholesale charges for electric, distribution charges and State policy charges.

So as it is probably clearer on your handouts what the components are, some of those the State controls directly, some more indirectly, so for example the wholesale electric piece is set by PJM, national policies regarding sulphur and emission allowances, the transmission piece which is determined by the Federal Energy Regulatory Commission, and so forth.

The top of it, kind of building up from wholesale to retail, the distribution portion, the recovery of the electric distribution, and then there are a variety of categories in terms of State policy charges including the sales and use tax,

various components, the Societal Benefits Charges, and so forth.

Now, some of those charges overtime disappear so we just started with 2009 and we are working through the figure out in the future in

2020, let's say, which elements are here or there.

You will notice on this there is no piece for the--there is an RPS portion, an SREC portion, there is no piece for ORECs because in 2009 we don't have offshore wind.

The next piece is the natural gas rate. Again, I will just go through the one with the percentages.

Probably one note before I leave the electric piece is that in determining the wholesale electric piece it depends if you use the BGS price versus today's PJM spot prices, and we will see a graph that compares them over time.

I just wanted to build up component by component so we could see the location of marginal prices, the retail of the reliability pricing model, so I used today's spot prices which are a little different than the BGS. But in any event, the idea is to capture the wholesale piece, and technology, depending on the assumptions you use, have some differences.

On the natural gas side we have the commodity piece, this is where you will see some projections where the wholesale portion may be coming down in the future, although projecting

natural gas price is dangerous.

The distribution, the wholesale cost of transportation, the distribution and again the State policy component.

So here the slide is not perfectly clear, this RGGI is not the RGGI allowances, it is part of the RGGI legislation combined with the energy and economic stimulus program.

How you define these and what one should group together will affect the percentages, but we just wanted to give people a rough order of magnitude, obviously any comments or suggestions as we refine this we will be happy to hear those as well.

The next major portion is talking about the R/ECON model which as I mentioned has been developed by Dr. Nancy Mentelli, an economist with the Blaustein School, she runs the R/ECON Center.

This model has been used for the State in a variety of contexts, not just energy. It is a State level macro-economic model. It takes assumptions from the national level from Global insight that will provide national assumptions regarding inflation, oil prices, natural gas prices, it puts that into a model and extends the model over

time.

What the next set of slides do is compare

the output 2008 baseline, the 2008 EMP, Energy Master Plan case, and the 2010 baseline case, assuming no EMP. So it is updating,the following slides are updating the economic projections from 2008.

In addition, where appropriate we added other assumptions from publicly available sources.

I just want to note that we only relied on publicly available sources although sometimes people do provide me confidential data and the reason is since everything has to be made publicly available so different stakeholders and Staff can look at it I have to limit what we can do to what is publicly available.

Publicly available studies don't mean Bob in his basement posting something on the website. We need to be able to get behind the study, to see the intermediate assumptions, the cost of capital, the cost of labor, so that we have some sense of the final number has been supported by a series of assumptions, so we tend to look at studies that are as complete or have enough so we can kind of delve into the details to make sure we have at least some

understanding of how they get that number.

The results I am going to present today for 2010 use the baseline middle of the road assumptions. Global Insight which, as I mentioned, provides the national, international assumptions that feed into this model also have what they call pessimistic case and optimistic case.

We ran the numbers, I haven't had a chance to talk to Nancy about them, so they are not presented here today, but I did want to present that we are, we do consider things within a range of estimates, we are just not looking at one set of assumptions, and these two different cases kind of a high and low case, pessimistic and optimistic, they are national assumptions provided here.

So basically they are different assumptions regarding future US economic growth and associated energy prices.

At a later date when those slides have been reviewed we can put them out just like we did in 2007 and 2008 to give a range of estimates on the different macro-economic information that was supplied.

The next set of slides are actually the result, most of the time it goes out to 2020, in

some cases we went out to 2025, just because we have the projections available.

The first set are economic numbers regarding jobs in New Jersey's gross state product.

As you will see here the recession, the bottom line is the 2010 baseline, for example, does not include the offshore wind legislation, because at the time we were preparing it wasn't available.

It does not include the Solar Act, which hardwired the amount of gigawatt hours, but in any event it is just baseline.

Now, the vertical lines indicate when we go from historic to projections. In 2008 we had less data available to project the future than in 2010, that's why you will see a kind of a divergence here because in 2008 we are using projection data available through 2006 or 7, depending on the source, and moving forward in 2010 we have another year of true data, so that's why the piece here, we pretty much drew this line at 2008.

Not surprisingly due to the recession, the severe economic recession the projected growth rate today is both flatter and lower than it was in 2008.

If you will notice the 2008 business as usual case and in the 2008 EMP on this graph are

identical. The projections we made regarding the 2008 Energy Master Plan showed a slight increase in jobs over the BAU, the business as usual, it is probably worth spending a couple of minutes explaining that.

When we did the projection for the 2008 Energy Master Plan versus the 2008 business as usual, at that time the RPS was already policy, the twenty percent RPS was adopted in 2004.

So the business as usual case referred to what was existing at the time, and as a result the RPS was part of the baseline case.

If you will recall from the previous slide a major portion, not the only portion, but major portion of the 2008 Energy Master Plan was energy efficiency, demand-response, combined heat and

power.

Those technologies, particularly at very high prices in 2008 are cost effective. In other words, they don't raise the price of electricity or the bills if they are implemented in a cost effective way, they actually lower people's expenditures on electricity which freeze up revenue for them to spend on other things.

In the case of the renewable portfolios

standard back in 2004 it is the reverse. The renewables for the most part are more expensive than current at least in direct costs, putting aside incremental pieces.

That is very important. Direct costs raise electric rates, that higher energy costs when they ripple through the State economy put a slow drag on the economy.

So back in 2004 our analysis showed the flip, showed there was a small economic hit to New Jersey's State economy by adopting the renewable portfolio standard. We did various cases back in 2004 and the magnitude of that small economic drag depends of course on the price of renewables, the cost of renewables, and whether or not the State was able or it is able to attract jobs, particularly manufacturing jobs to the State because counterbalancing that increase in electric costs are the jobs associated with the manufacturing assembly, operations of whatever technology we are talking

about, offshore winds, solar, combined heat and power, energy efficiency.

So with that context in mind, that is why the 2008 BAU and EMP at this level where we have gross state product is about the same, it is still a

small difference but it is this trade-off between increasing electric or energy prices with some technologies versus ability to attract the operations, manufacturing and development jobs within the State.

The same story applies for the next picture, which is employment, non-agricultural employment.

As you can see the BAU and the EMP, business as usual, and the Energy Master Plan, cases are near identical, although the EMP actually had about eighteen to twenty thousand more jobs.

Another important distinction that needs to be made with jobs is some jobs are one time jobs, like the construction of new facility, other jobs are ongoing jobs, the maintenance and operations and so forth. So as we go through these different analyses we should think about which ones are one time jobs for a week or five years, and also which ones are continual jobs which are operation and maintenance.

Typically in a new construction project there are a lot of one time jobs over the construction period obviously, and then there are a fewer number of jobs typically with respect to

operation and maintenance.

Just for fun the US government through the Energy Information Agency also projected kind of national US trends so on many of these slides we have a little box here with this kind of reporting of aggregate annual growth rate or numbers just so you can compare the different sources.

Similarly with the consumer price index with the recession there is downward pressure on prices although that abates going out into the future, and then just for contrast we reported the Energy Information Agency's numbers, not surprisingly the lower inflation is perhaps leading to the higher economic growth in part, perhaps.

Now let's slow down a little bit and talk about the various components, electricity, natural gas and gasoline.

This slide is a -- let's start with the 2008 Energy Master Plan. By assumption EMP, assuming it was implemented and successful, basically flat-lined electricity growth and that is evidenced here by that line here.

In 2008, BAU, within a growing economy and increasing commodity prices went up to about over here.

The 2010 baseline is in between the two naturally because it doesn't reflect the Energy

Master Plan, but with the slower economy you see the dip in electricity sales and increase, probably a little bit lower, you can tell from the table, than in 2008, so the baseline 2010 growth rate for electricity is up 1.2 percent. The BAU in 2008 was 1.3 percent so that's just due to the economic changes.

We also put up PJM's forecast in 2008 and 2010. They are a little bit higher in part due to their growth rates, but also in part because they are not accounting for distribution losses, so they are not a pure apples to apples comparison.

But in any event, we picked off the PJM piece for New Jersey for the electric utilities in New Jersey, not PJM-wide, but they actually forecast at the utility level.

This is the same chart we just extrapolated out to 2025, the forecast in 2008 only went out to not the whole time, again, just for additional five years.

I should make one more comment about our R/ECON model. The purpose of this model is not to project a business cycle ten or five years from now,

it just projects long-term trends, it works through the current business cycle which hopefully we are coming out, of although that can be disputed, and then it just projects pretty much a straight line growth rate, not always out into the future.

Not trying to find if in 2018 there is going to another recession or in 2020 there will an

upturn from the 2018 recession, it may give an illusion of stability that it is not trying to do.

It is not trying to project where we are going in a projected business cycle. If Nancy and I could project business cycles we wouldn't be here, we would be in Monterey or en route. If you know how to project business cycles talk to me afterwards and we can make some money.

I don't want to give the impression that we don't think there is going to be a shock in natural gas prices due to hurricanes or there can be anything that could disrupt the economy into the future, it is just given this modeling technology, this is what it does.

Why stop at demand, we might as well forecast prices as well.

As you can see, these charts are lined up the same way.

Now we have kind of an outreach electric rate weighted across commercial residential and industrial. Again you will see that the 2010 baseline is lower. We have to make some out of modeling adjustment, I don't think the model is behaving properly but we are investigating that.

But in any event, the BAU reflecting economic conditions in 2008 had a much higher growth rate. We see that also in the chart for electricity.

The R/ECON model is better at forecasting

aggregate things, total employment, total growth state product, as opposed to individual components, that's the way the model is set up, the way it works. We also put, this is not a fair comparison because it is not a retail number, the basic generation service as well.

You will see a downward trend in prices here both reflected in the EIA and baseline, EIA is for the Mid-Atlantic, they don't provide a projection for New Jersey, but you see basically a reduction in electric rates in part due to the economy, and weather plays a part as well.

Again, we made the same, we just extended this out to 2025, just for informational purposes.

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As the projections get further out into the future there are uncertainty increases. As you look at those lines you should see a plume of uncertainty that is expanding over time, if I would have drawn that for every line there would have been one big mush.

The next slide is peak electric demand. Again, the Energy Master Plan by assumption pretty much wanted to flat-line the peak demand so that the top one hundred or fifty hours in the electric system had a lot of costs, you build the electric power system for peak hours, just like you build the football stadium for the Superbowl ,it is the peak hours that are driving the capital cost which is a major portion of costs.

The BAU up here, maybe twenty-five

thousand. Just by kind of projecting out through PJM they have a demand projection for reliability for 2010, about there. You can just kind of see where our actual versus some projections.

This set of curve is low duration curves for 2007 through 9. For those of you who have better things in your life to do than to understand those curves, all we did is we put demand in megaWatts hour by hour ranking it from highest to

lowest. Obviously demand fluctuates cronologically, so the hottest day may be July 7, the second-hottest June 25, but we ranked them, which is the standard, from highest to lowest. It gives you a good idea of peak and it gives you a good ideal how demand has shifted, the kind of average demand, off peak demand over time.

And you can see 2009 has been substantially lower, partly due to weather, I think it was a mild summer, but also the recession as well, so it is a combination, so you should always think about the weather piece as well.

You can do the same thing for wholesale electricity prices, location and marginal prices, L and Ps. We then did them, we ranked them for New Jersey 2009, 7 and 8, you can see in the chart we did the peak provision, the top fifty and the top one hundred.

Again due to weather and the economy those prices have been coming down at least through 2009

we can explain those by weather and economy.

So both the peak price and that top fifty or a hundred is driving a good piece of the prices, a lot of them are flat and kind of in the middle.

As Joe mentioned, the 2008 EMP did not

include the Solar Advancement and Fair Competition Acts so we did want to have a slide and table going out to 2025, this is the slide that we did in the energy year just to confuse you, so we are forever bouncing back between energy year and calendar year.

This is an energy year but you can think about it as a calendar year, the true-up worked up.

Here is the solar requirement. It used to be a percentage but now it is hard-wired in terms of GWH hours, the actual numbers are provided on the next table.

You can see over time kind of walking up the solar curve there is substantial increase about fifty percent from 2020 to 2025 in terms of solar.

Here we just, the legislation, I believe just stipulates or the regulations for the RPS at a percentage, a constant percentage through 2020. We took that same percentage, multiplied it by expected GWH hours to get the remainder, that's why it is going up. It is not that the percentage is going up, the percentage is being applied to a number that is increasing.

That gives you kind of a picture going out through there.

The next slide just provides the numbers

so we can make sure and check it and make sure we got it right.

Let's transition into natural gas. The same type of setup. We split out natural gas including and with and without electric generation, because it is a major piece. As you can see, you will see in the next slide, the price of natural gas has been forecasted to be lower than it was two years ago, so that is causing the increase in natural gas demands. Here, without electric generation, again, you see the baseline is higher because of lower prices, you will see in a moment compared to the BAU and the EMP.

Again, we projected it out for 2025 for your information.

We did average, weighted average rates just like electricity, those are retail. We also included, I'm not sure we can talk about a retail rate when the generator is natural gas, getting it from the transmission system as well.

In any event, we just compared them with the OA EMP versus the BAU for rating with the retail rate, so the lower rates are primarily due to the lower commodity piece of natural gas.

Again, we plotted out with EIA Energy

Information Agency just to give a point of comparison and it went out to 2025.

Now, one motivating, well, I will talk about it when I get to it, here again we did the rate out to 2025 retail level.

So as many of you know Henry Hub (phonetic)is a major trading place in Louisiana for natural gas, its indicater is a good good pricing point for wholesale natural gas with the development of the technology that allows producers to get at shale gas, gas that we know existed but just couldn't get at economically, many are forecasting lower natural gas prices over time. Much of that shale is available in the Northeast so it could also affect transportation cost of natural gas.

There are some issues with that as many people know in terms of water issues and other environmental issues, but with the downturn in the economy and the substantial increase in economic reserves of natural gas which took I think almost everyone by surprise, MIT released a natural gas study rather recently and it acknowledged, it went between 2008 to today, it was really kind of a breakthrough, we really figured out that there was a large economic resource of natural gas at least

potential, and once that is put into the various models that shows a decrease in wholesale natural gas prices.

So if you remember back in 2008, wholesale, that is Global Insight that was fed into the R/ECON model, now prices are much, much lower, maybe fifty percent lower or even more.

Although the 2008 EMP did not address transportation we put in the gasoline and oil just for completeness, again predicting gasoline prices, they are never volatile, you should put a very wavy line on top of whatever trend line you think would be appropriate.

With the lower oil prices, the decline in the economy at least for oil, those projections are lower today than they were in 2008. We put in some different projections as well, EIA, as you can see there is a very wide range of projections for gasoline prices in the U.S.

And then the corresponding wholesale at least one part, one point is in Western Texas, WTI, Western Texas Intermediary , and you can see in this case, Global Insight actually has in the out years a higher oil price than they did in 2008 for whatever reason.

But in the near-term we have the substantial drop in oil prices due to the world-wide recession.

Okay.

And in the last five or ten minutes I just want to wrap up. I want to just briefly talk about generation cost assumptions.

Many of you will notice there are some pieces that are missing, we don't have any slides on energy efficiency or demand-response, because when pencils were down we didn't get to that part yet, we

are developing those as quickly as we can.

Feel free to anticipate what we are going to do, we will take input on them, even if as of today we haven't, this is just preliminary or draft thinking. We don't have greenhouse gas emissions and so forth. We are working through those as well. We need to coordinate with other parts of State government which we are hoping to do. So this section here are genneration cost assumptions for the standard technologies, we organized them alphabetically, why not?

And we tried to look at available studies, publicly available credible studies that provided not just the final answer but also the component

parts of the various assumptions.

One way to compare generation technologies on a somewhat equal footing, although not perfect, is the levelized cost of electricity.

It is not perfect for a variety of reasons.

One reason is different generation resources get different prices in the market. Solar gets peak prices because on a hot sunny day that is driving up electricity prices, wind tends to blow during off peak hours so it would collect a lower price in the market, lower revenue stream. So the cost component doesn't make that comparison, you then have to run a market model and figure out the revenue and how it varies by the type of technology.

It doesn't usually account for

environmental issues unless those costs are internalized in the fuel price, so, for example, the emission of mercury is not accounted for in the levelized cost of electricity from a coal plant, unless that is internalized into the fuel price.

So in some cases you have to address the environmental issues, in others differently.

Then account for intermittency, that's an issue for some technologies, and also it doesn't

address perhaps cost changes over time so the levelized cost of electricity is at a particular point in time, the technology in some cases, that technology, the cost is decreasing hopefully rapidly over time.

In any event, comparing levelized cost of electricity over studies is more challenging than we thought, than one would think. Partly because you really never get an apples to apples comparison, they vary by time, by location, by the level of detail.

But here we tried to provide a range from publicly available studies recently, I put CEEP in 2004, I probably should not have done that, you can laugh at me, but that's fine. The same thing with 2008, so we are more than willing to say where we got it wrong. But things will change, perhaps in the future we will be right after all, you never know.

We also provide more details for the

various technologies individually.

We do it by major components, biomass is very idiosyncratic because it depends on the technology, availability of fuel, what type of biomass, so it is really a range of technologies as

opposed to a standardized one.

Same thing with the fixed operation and maintenance cost and variable costs, we looked at combined cycle turbine gas programs, both gas turbine GTs in combined cycles, typically from PJM cost of new entry, various studies, even for well established technologies, combustion turbine or combined circle projections about cost vary over time and by study. Even for technologies that are relatively mature you get a variation in cost.

We made similar assumptions about combined heat and power, like biomass it is very specific, Joe is an expert in that area, we just note that ICF is wrapping up a study for the BPU assessing combined heat and power in New Jersey, so we will feed those results into this as well.

To give you a graph over time we tried to just show you the range of estimates on independent studies for the different technologies, just to drill home the range of cost assumptions.

The same thing with gas turbines, again, to drive home the point gas turbines were projecting in DOAs back in 2008 that the prices would go up.

Look at this, six hundred dollars versus nine hundred dollars, six hundred versus eight

hundred dollars. There is a wide range of these technologies even in something that is very well defined a mature technology, a cost.

The good news about solar is we know the price today, we know the cost today because there are many solar panels, of course the vary by size, with nuclear and offshore wind we don't even have good data at least for the U.S. No one has built a new nuclear power plant since one or two have been completed in the last thirty years, projections of dollars per kW, capital cost, which is obviously a key part of nuclear, you know, there are numbers on a piece of paper, you really have to treat these with a grain of salt.

One would expect, at least I would suspect, that the first nuclear power plant to be built in the U.S, or the first couple, may be at a much higher cost due to regulatory risk, but who knows? This is dangerous, business projections about nuclear power, but also the same applies to offshore wind where we really don't have good data, actual data, based on recent experience in the United States.

Those projections I would treat them with a much larger band width, these ranges, I don't

think are really accounting for potential regulatory uncertainty.

That being said, the technology is improving. There are different designs and so forth.

Similarly with offshore wind, again, you have a little bit of cost projections based on the the submissions by developers in New Jersey and elsewhere in the Northeast. Again, we don't have five offshore wind facilities and the actual data that have been built, at last in the United States. We do have international data.

Those projections are varied again by data source, so that's a big piece.

In the case of offshore wind other large uncertainties besides capital cost are the capacity factor, do we know the quality of the wind and when that wind will blow, when will it generate the revenue and along with any associated transmission costs to deliver that power to market, so are a variety of uncertainties surrounding offshore wind along with other technologies.

Onshore wind, similar estimates. That we have a lot more experience with in the United States and through the class 1 REC which is really

reflecting the kind of marginal renewable portfolio standard.

Solar, the story with solar is that prices are coming down. Every time I hear solar I hear the word grid parity, hopefully that occurs.

That being said, if you look at these projections, even relatively recent projections,

this Navigant in 2008 was at the end of the year in December '08, have wide ranges. In 2008 the Department of Energy was forecasting, if I have the numbers right, an increase in solar costs into the future reflecting what they thought at the time would be a kind of shortage and then a price decrease.

That may have worked its way out with the recession.

The cost of these facilities also vary by size on the residential home, this could be more expensive than at a solar farm, a large field, for obvious reasons.

The next piece, again, shows the variation over time where you are trying to capture the downward trend, at least what is reflected in the studies that we could access. Here I just wanted to show the major components, solar like wind is pretty

much, much of the cost, most of the cost on the capital piece, but along with that capital piece it includes the installation cost of the capital and so we just provided a breakdown based on a couple of studies and based on several communications with some of the developers to get an idea how much is due to the panel, how much is due to the inverter and how much to the installation.

And then just to annoy Joe we provided every reference that we did, but I hope we didn't miss any for your review.

With that I would like to take any questions or comments.

Let's take five minutes.

Is there a sign-up sheet? How many people are intending to speak?

We will take a short break and then we will start.

(Short recess.)

PRESIDNET SOLOMON: At this time Commission Asselta has joined the proceeding. Commissioner Fiordaliso will be joining us shortly, I know he wants to sit in.

What I'm going to ask you to do is if you have a question or comment that you want to make

raise your hand and I will call you up.

Make sure you state your name and your organization for the record so that we have it and then you can begin to speak.

Stephanie, you are up first.

MS. BRAND: I am going to defer to Bruce.

MR. BIEWALD: Bruce Biewald, I'm consultant to Rate Counsel.

I just have a few clarifying questions.

In general, this is really interesting, in trying to understand the costs, the levelized cost and then the capital cost, levelized costs and megawatt hours, megawatt costs in terms of megawatt dollars, capital costs in nominal dollars per kilowatt, Frank explained that it's a little bit of apples to oranges, that's what kind of where my

question is getting to.

How can I understand these and compare them, say the nominal dollars per kilowatt, do they include the transmission, interest on construction, and so on, or are they just different across the different numbers, the columns here, and we have to go back to the original study?

You are nodding your head.

MR. FELDER: Yes.

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MR. BIEWALD: Second, is there kind of a philosophy that you are trying to compare to here, or it a mixed bag?

MR. FELDER: No. The first step, as always, is just to get together the information and try to make those comparisons that have enough detail and then let people take a look at that, see if we missed any major studies.

At some point we may be asked to actually project the levelized cost of electricity for various technologies and we will be explicit when we do that.

So our first step is just to collect as much data as is publicly available and try to get it out to people, and the format was useful.

MR. BIEWALD: And for the levelized costs, so they could be over different time periods, they might be 2008 dollars per megawatt hour?

MR. FELDER: That's right, the graph released at the time of the studies, if they were

projecting a levelized cost five years from now we would put that with 2015 as capital cost.

I have seen some studies where they would use a certain lifetime for a particular technology and another study would use a longer lifetime.

If you increase the lifetime of the technology, the levelized cost, all else being equal, is low because you are amortizing it over forty years or sixty years versus twenty.

MR. BIEWALD: And things like cost of money and inflation rate and things like that could vary?

MR. FELDER: That's right, they could vary dramatically by studies and you try to least for the major components identify those differences.

In some cases studies don't provide that.

MR. BIEWALD: And then specifically I am looking at slide 50, the nuclear capital cost, I am not certain, I am scratching my head about what that is, the horizontal axis for particular years, are those the years that the plants would be built, the year of the studies?

MR. FELDER: No, it's the projection of the cost of nuclear in that year, in 2025 or 2020.

The one study in 2050 hasn't occurred, so it would be the capital cost for a nuclear plant that was built in that time period.

MR. BIEWALD: But then in 2003, 2004, those would be historical?

MR. FELDER: They were projections for the cost of nuclear in the time period of 2003 if

that plant was built at the date of that study or year, so they pretty much have doubled from this time period up to here, even though we haven't built a nuclear power plant for whatever reason.

MR. BIEWALD: So this is really in the minds of the estimators since there weren't any nuclear plants bing built?

MR. FELDER: Right, those are numbers on a piece of paper.

One of the questions is when you are doing those estimates you are doing them with 2025 dollars or 2015 dollars or 2010 dollars, or mixed dollars?

MR. FELDER: We tried to do those nominally, so this would be in 2020 dollars, those studies, whatever studies that were done for the cost of building a nuclear power plant in 2020 dollars.

MR. BIEWALD: And so is the data here, is the data in the chart exactly the data in the table?

MR. FELDER: Yes.

MR. BIEWALD: So, for example, if I wanted to see like the 2004 study, it might be the one, the University of Chicago over on the left-hand column?

MR. FELDER: Right.

MR. BIEWALD: That's helpful.

And the up and down and the ranges might

be more artifacts of how they did the study rather than some trend?

MR. FELDER: That's correct.

MR. BIEWALD: I was wondering about, going back earlier, I think it might be in the 20's in the gas demand slide, maybe like 25 or 26, that seems like a big difference in some of the near-term years, for 2008, 420 and 460, the difference between the lines.

And I really , if you could speak to what is going on there in kind of the recent past and the near-term and the future and kind of explain why that might be; is it a data anomaly, or a price effect? I am kind of confused.

MR. FELDER: Yes.

There was a price drop in that actual time period, a large price drop, and in the economic model it would decrease the price, so I suspect that that is a major piece, but I would like to double-check.

MR. BIEWALD: And my last question has to do with the electricity which I think came just before this, electricity demand, the energy-- there

you go.

And it has to do with whether the base-line, whether and to what extent the base-line includes policies, so for example, is there any energy efficiency included in the BAU forecast, if we look at the slide where it says the State is spending money on energy efficiency and other things

and imagine that in 2008 the EMP line down at the bottom includes the effect of all those energy efficiencies and those policies, but for the other BAU line and PJM forecast, can you speak to what energy efficiency might be embedded in those?

MR. FELDER: For the 2008 BAU, that included energy efficiency that the State was doing at the level based on the historical data.

So if there was energy efficiency that the State was doing, the EMP proposed an increase in that level.

So what the model does is it looks at past data over twenty years or so, depending on the data set, and to the extent there were policies over that historical time they are projected forward at the current rate.

The 2010 base-line, that would include energy efficiency that the State had been doing at

this level, it would include issues with the RPS which was adopted in 2004, but it not include the Off- Shore Wind Act which was signed today, I apologize for missing that.

PRESIDNET SOLOMON: So do I.

MR. FELDER: I didn't want to presume.

And the same thing with the change in solar, so to the extent that the policies indirectly are affected parameters in the past, they are projected forward basically at the past trend level.

MR. BIEWALD: And could you comment at all,

I think that the PJM is quite conservative about what energy efficiencies they include in their forecasts, can you comment at all on what might or might not be contained as to that?

MR. FELDER: No, I mean I've looked at the reports, we have been asked similar questions.

MR. BIEWALD: Thank you.

PRESIDENT SOLOMON: Anyone else from Rate Counsel?

(No response.)

PRESIDNET SOLOMON: Does Staff have any questions?

Come on up, sir.

My name is Max Hardy (phonetic) from

Energy Maintenance Services.

I have a question. You mentioned about shale gas suppliers.

Are you expecting the gas from the Marcellus shale as being a contributing factor to the plight of the Northeast? That's one question.

Do you take into account, for example, when you levelize the costs, whatever costs you measure, do you take into account inflation costs and prevailing rates and things like that?

MR. FELDER: To answer your second question, when we do look at costs over time we account for inflation, we had a slide on inflation, prevailing rates and that type of stuff. Those would be escalated in order to get the right number.

MR. HARDY: What we are seeing is a lot of

the asset owners when they do project plans up front, for example, solar, wind, et cetera, biomass, a lot of the costs relate to O&M that literally have to be addressed in pre-investment studies that have to be done. That's how you arrive at these revenues, if you are making an isolated investment in solar or anything, operability is very critical. My main concern was especially in the Northeast.

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PRESIDNET SOLOMON: Frank, you did say that you did take into consideration the prevailing wages?

MR. FELDER: Right, in the past for a particular project we would account for that worker, whether or not that project was union or required a prevailing wage, yes, in the past we have done that. You are right, someone mentioned it during the break, whether we considered that.

MR. LUKSLY (phonetic): Kevin Luksly with PSE&G.

Last time you assumed a national C02 policy, I believe a cap and trade based approach.

What are your assumptions or what are the assumptions behind the national forecast for that, are they included in the energy policy?

MR. FELDER: Yes. The last time we did a variety of sensitivity cases at different cost of carbons, so we did a RGGI case, just straight RGGI, and then a Federal case for sensitivies. I don't

think we made different scenarios to address that.

In terms of, in the global insight I would just have to double-check as to what is embedded in terms of their particular assumptions regarding future carbon policy, I don't know off the top of

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my head.

PRESIDNET SOLOMON: Any other questions or comments?

MR. ASIDRO (phonetic): My name is John Asidro, I am with Power Ventures.

I have a question on the slide that's up on the wall right now having to do with demand.

Historically, I think if you look at the way demand is growing, any time there has been a recession there has been a quick bounce-back following the recession over a certain number of years.

But I note whether it's the GDP slide or the electricity demand chart, they all seem to have a permanent structure component to them.

If you look at the difference between the PJM projection and your projection, it's about a 10,000 megawatt difference out to 2010, which is very substantial, so I think that issue needs to be looked at carefully and thought through.

I am wondering how your models are done as to that particular issue?

MR. FELDER: The PJM estimate was in January 2010, so it was at the start of the year.

Ours is, Nancy's is in July.

Let me explain a little bit because there has been a lot of talk about the double-dip recession and so forth, so that may be a piece of it.

Without being able to delve in deeply as to what PJM is doing, it is hard to compare why their assumptions are driving at a higher growth rate than what our R/ECON is, but you are right, as I mentioned there is that drop due to the recession and then the incline is at a lower rate than what PJM has forecast.,

MR. ASIDRO: I have one other question on the levelized cost of electricty where your fixed O&M component is expressed in dollars per kilowatt, traditionally in the industry I've seen it expressed as dollars per kilowatt month.

Can you explain how the dollars per kilowatt was determined and why it's not a dollars per kilowatt month?

MR. FELDER: I suspect it was a dollars per kilowatt year, and I would just have to check.

PRESIDNET SOLOMON: Anyone else?

Please step up.

MR. VOGEL: Evan Vogel from Petro Solar.

We are the company if you drive around and

you see solar systems, our solar system is up on utility poles around New Jersey, that's the company

that I work for.

Mr. Felder, it is always easy to ask questions, it's much harder to put the first shot up, so I applaud you for doing that.

Now I will ask you some questions.

This study is defined solely on costs and I think it is a very good study on that basis.

There are some things on the first level like decommissioning nuclear plants I think that need to be taken into account when you look at the cost of nuclear, for instance, and I resonate with the previous speaker's comment about the cost of carbon.

Moving ahead, I would hope that there is a cost of carbon and that would significantly affect a lot of technolgies that we are talking about in this study.

One question I do have, and it is just a general question: The future of the electric vehicles coming onto the grid and what will that do?

We think and I have seen studies that that could be likened to the level shift of demand when air-conditioning started to be widely adopted.

I am just wondering if that's part of what looks like the 2010 baseline or there is an additional effect coming on line in some period of time when the electric vehicles do come onto the grid?

MR. FELDER: The 2010 baseline does not include electric vehicles because they haven't been

affected in the past, so it would not, so to the extent that there was carbon policy or some other policy that pushed electric vehicles or substantial technological changes, that they were economic and therefore had a large penetration rate, that would not be captured by the 2010 baseline.

With respect to carbon, it's an open-ended question as to what policies that the Federal government, if any, adopts and how much that would affect carbon, so I think that the way to address that, I would suggest, like we did in the past is to look at different scenarios.

MR. VOGEL: My last point.

As we look at the State in general and we look at energy policy and the obvious investments that we are going to need to make, I think that one of the important things always is to look for, as you mentioned right at the outset, Mr. Felder, the

local job creation.

And one of the things that we have done a lot of research on is kind of looking at a six deck multiplier, which means that if you use local content in any of these technologies of the systems that are installed that there are six dollars put into the New Jersey State economy, and that's a real important part of the process and we hope that that is considered as the policy is fully evolved.

MR. FELDER: I have been working with someone from Petro Solar and other solar companies

and anyone else in terms of providing actual New Jersey data, and we have to respect confidentiality and we can work through those issues, but to the extent that we can pin those down based on particular projects or kind of aggregated data so we can compare it to publicly available studies, I think that would be very helpful not just for solar but for any technolgies.

MR. VOGEL: Absolutely, we agree.

PRESIDNET SOLOMON: The gentlemen in the back.

MR. STEVENS (phonetic) My name is Frank Stevens, I am President of the New Jersey Electrical Auto Association.

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We have a lot of different people who are going to start to adopt and take the opportunity to convert their cars over to plug-in electrics, which is a simple one day procedure which I can tell you we are doing now.

So I think it probably is a good idea to include it in the overall demand because the ones, with what's coming out this year there probably will be some Nissan market penetration initially. I do expect most of the demand to come at night when most people will charge them up at home and then they will take it out and drive it the next day. That's the only thing I would add.

MR. WILSON: Dennis Wilson, I'm the Vice-President of New Jersey MC (phonetic), a regional solar industry association that represents

over a hundred solar contractors.

I have a question regarding the value of solar electricity. Do your models attribute a higher value to solar produced electricity due to its significant coincidence factor with electric prices on the wholesale side?

MR. FELDER: Yes.

MR. WILSON: In comparing the technology and the maturity of obviously a very wide range

with plants from fifty years old to the solar industry that's rapidly growing and evolving, the numbers on your costs are certainly higher than what we see currently in the industry, so I'm hoping that the industry and us will provide you with more current data because I'm seeing costs of a thousand to two thousand dollars below the numbers that we have heard today, and with predictions from major consulting firms doing research world-wide indicating that those costs will continue to come down pretty rapidly as the industry scales up further.

In the area of energy efficiency, I really didn't see much in terms of attributing potential growth in energy efficiency by putting in place long-term contracts to acquire that.

From my history, having run an energy efficiency company in the nineteen-nineties, most energy efficiency today can be acquired for about five cents a kilowatt hour if amortized over a ten

year term, so I am hoping to get more information about energy efficiency because that's an area evolving rapidly, too.

Another area I want to ask you about is whether you have looked at thermal storage and the

load shift, the capacity, as an acquisition tool?

MR. FELDER: Not in what I presented today, although a couple of months ago with one of the vendors I literally went through a cost-benefit analysis of thermal storage in New Jersey so I looked at some ,but not in the context of what is presented today.

MR. WILSON: I know when the last Master Energy Plan draft was being worked on I had some discussions with some of the utility people doing that, and they indicated that there was at least a thousand megawatts that technically and economically was achievable in thermal storage, so I'm hoping that that will become part of it as well.

MR. FELDER: Another point that you made, and thank you for making them, I would encourage you to provide the data on your suggestions, and we will be happy to take them down.

MR. WILSON: There are some reports that you may not have had access to that we will get to you.

MR. FELDER: Right.

If those reports are confidential and other stakeholders can't see them and review them, we will have to somehow address that issue.

MR. FAGAN: Tim Fagan from PSE&G.

On the bar graphs you showed in the beginning reflecting the average bill, can you talk a little bit more about how you are going to project out to 2020? Because depending on the elements, some of those things will be more or less capable of being forecasted out.

And on the capital costs, just generally, I think you started to answer it just a little bit, but to what extent are you going to be able to adjust those costs to make sure they are reflective of New Jersey specific costs, labor and land acquisition, permitting and things of that nature?

MR. FELDER: I'll answer the second question first.

We have been asking industry to provide data, again looking into the confidentiality of New Jersey specifics.

Unlike what we had back in 2004, we have a lot more experience, whether it's on cost or jobs we should talk advantage of those six or so years of experience in those areas.

We adjust them for base rates in New Jersey, property rates and so forth.

That being said, we can't do a detailed

study of every possible type of technology because it does vary by location and so forth, but those

are reflected as best we can in the work that we do.

Regarding your first question, can you remind me of that?

MR. FAGAN: You indicated you were going to try to project that same bar graph for 2020, so could you talk about how you are going to project certain elements of those pieces, having limited or perhaps no information what they will really look like in 2020?

MR. FELDER: That's what I forgot.

We are going to do the best we can and you will tell us that we are wrong. That's all we can do.

We will put uncertainty curves around them, we will just have to do different scenarios and be as transparent as we can, and for folks who think there are other or better assumptions, they will be able to adjust the numbers and then present what they think is a better projection.

MR. YAFFIN (phonetic): I'm Scott Yaffin. My interest is in combined heat and power. I with like to ask a question about slide 45.

One of the things we do is audits and work with clients who are looking to combine heat and power and there are three things that become evident economically. One is the cost of fuel.

I found that the slides you showed are very interesting on natural gas going forward as far as the spread and the difference with electricity.

Another cost is the O&M cost of the equipment and also for this slide is the installed capital cost, so I think it makes it very important to get this slide accurate.

And the question.

I would just like to lend our support to help you understand those because I certainly see my experience both with reciprocated internal combustion engines and gas turbines and solar that the cost per kW probably could be on the low end of what we are seeing there, so I would like to be of some assistance there as we move forward.

The question is, I assume those are all from publicly available reports.

MR. FELDER: Yes, but maybe Joe can add to that.

MR. SULLIVAN: We will look at a variety of things. Some of this information was

specifically from smaller systems, and the smaller the system is the higher the cost per kW installed.

In larger systems as we look at this we probably will lean more toward the price presented on combined cycle gas turbines because those more accurately represent the cost factor for substantially larger plants.

We understand, and the tough part about this, especially for this technology, these companies refer to kW with little tiny things up to a 50 megawatt power plant, so one size doesn't fit

all, so it is probably one of the items that has a greater band of known price variations which makes it more challenging.

MR. YAFIN: Certainly, but it is the phenominal beauty of combining power with energy efficiency in creating electricity with thermal energy from one single source of energy in natural gas or bio fuels.

MR. SULLIVAN: We appreciate your point.

PRESIDNET SOLOMON: The lady in the front.

MS. KNOLLS (phonetic): Good morning. My name is Meredith Knolls, my company is American Efficient Lighting, and I have been

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involved with energy efficiency since the 70's actually, in the Carter years, if anyone remembers that.

Even though we know that this report does not include and doesn't focus on energy conservation or efficiency measures and practices, I just would like to point out the reality of that in a very strong and real way. For instance, in this particular room if you had multiple switching you would be able to save two-thirds of your kW usage in the lighting as opposed to having them all on or all off.

So there are some very real practical ways and very real hard numbers and bottom line numbers that through all these years have worked and will be able to really have a strong impact.

Even as I walked through this building coming in, I hate to say how boring I am, but the lighting kW just speaks to me as I walked down the hallway.

Without that focus and without that concept included, the impact of renewables can be mitigated with simple conservation measures, proven technology that's been around.

MR. SULLIVAN: That is probably very

consistent with what we have in the current Energy Master Plan and all of the Energy Master Plans going back for twenty years.

You should have been here about a year and-a-half ago when we still had the old one inch tubes, so we are making progress. We haven't got the switching right yet, but there is also a plan for the Board to relocate our offices in Trenton, so we are not going to make any investments for the next tenant here, but that is certainly something we should consider always.

As we are looking at our offices in another location that practice will increase and we will utilize those technologies.

Obviously in all these plans energy efficiency is always coming out as one of the best investments for the best return, and we are going to continue to emphasize that.

The less energy we use, the less we have to make from whether it's from conventional

resources or renewable resources, and that is going to be a continued focus.

MS. KNOLLS: I would also take a second to add that i have been working with lighting quite a bit and following the DOE, and the next step through

the DOE is education, which is a very strong component that has really worked in addition to the hardware and the shift in technology, public education is a very strong key to having people change, and also for the people that are going to be taking this space, if you guys move out?

COMMISSIONER FIORDALISO: Just mention where you're from.

MS. KNOLLS: Livingston.

PRESIDNET SOLOMON: When we leave, which will be fairly soon, I will make sure that we leave a note for the next next tenant, which will also be a State institution.

MS. KNOLLS: I also wanted to say that they saved almost a million dollars by switching over to their own LED lighting.

PRESIDNET SOLOMON: Any other comments or questions?

A GENTLEMAN: Frank, two questions.

At this point in the year I suspect we have seen some pretty high detail on peak prices. Do you have any sense for where that's coming in for this year?

Regarding the CPI data, there has been an awful lot of discussion about the impact of

electricity on energy prices in New Jersey and impacting businesses staying or leaving.

We think it would be helpful if you have the data to be able to show how the percentage, electricity as a percentage of total cost may be trending over time.

MR. FELDER: I think that they are both good questions. I don't have anything off the top of my head, so we will take a look and try to get back on th/at.

MS. BOLTON (phonetic): I'm Christine Bolton of the Sierra Club.

Particularly with respect to natural gas, are you incorporating potential regulations for the cost of natural gas, project the costs?

I guess also potential regulations for emission related to coal.

MR. FELDER: On the second question, that goes back to kind of a scenario analysis of carbon pricing either directly or through cap and trade.

For the first one, implicit in any projection of natural gas would be a repertory regime, it may not be explicit, but I acknowledge your point that the broader issues and other environmental issues are concerned with natural gas,

and that does provide some uncertainty about the timing and extent of development of shale or gas.

PRESIDNET SOLOMON: Anybody else?

Seeing no one, it's not even twelve o'clock, okay, thank you all for coming.

The notice does have the date of the next meeting, September 22nd.

Any information that you can provide to Mr. Felder or us that might be of assistance, we will take take it and digest it, if you have additional written comments.

Thank you all for coming.

(Adjourned.

C E R T I F I C A T E

I, William Sokol, Certified Shorthand Reporter of the State of New Jersey, License No. 30X100030700, and Notary Public of the State of New Jersey, do hereby certify that the foregoing is a verbatim record of the testimony provided under oath

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