BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. UNDOCKETED

In the Matter of

RENEWABLE PORTFOLIO STANDARDS.
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PROCEEDINGS:	STAFF WORKSHOP
DATE:	Thursday, August 23, 2007
TIME:	Commenced at 9:30 a.m.
PLACE:	Betty Easley Conference Center Room 148 4075 Esplanade Way Tallahassee, Florida
REPORTED BY:	JANE FAUROT, RPR Official Commission Reporter (850)413-6732

P R O C E E D I N G S

MR. FUTRELL: Good morning.

I'm Mark Futrell with the Commission staff. I want to welcome you to the staff workshop on a renewable portfolio standard for the state of Florida. Before we get started, I'd like to ask Ms. Gervasi to read the notice.

MS. GERVASI: Pursuant to notice this time and place has been set for an undocketed workshop on renewable portfolio standards.

MR. FUTRELL: Thank you.

As many of you were here and recall, on July 26th the Commission held its initial workshop on renewable portfolio standard, or an RPS, where the Commission heard from many interested parties. The purpose of this workshop is to gather more in-depth information on specific issues regarding the establishment of an RPS through an open discussion, and we would hope that everyone would come to a microphone. We have got tables over here and microphones available that everyone will come and participate in the discussion.

The workshop is being transcribed, so those wishing to discuss specific issues should come up to a microphone and identify yourself for the court reporter and who you represent. We do have a sign-up sheet in the back, and that's just a record of attendance so that if anyone requests that we will have a record that you were here and have that information for

our records. We would ask that you sign that on either side in the back. We also have copies of the agenda on the railing, and that's available for everyone.

Before we get started, I would like to introduce a participant that is here with us, Ryan Katofsky from Navigant Consulting. Ryan is here as part of the U.S. Environmental Protection Agency's outreach efforts to assist states as they develop information and develop renewable portfolio standard programs. And Ryan is here to provide us information on state experiences that they have gone through in formulating and implementing RPS. So, Ryan, welcome.

MR. KATOFSKY: Thank you.

MR. FUTRELL: We do have an agenda and we would like to get started with looking at -- the first issue is to lay out and talk about the goals and objectives of an RPS and how that will guide the development as we make choices going down in the development of this program. And we have thrown out for discussion a few ideas on goals and objectives in the agenda, and we would like to get your feedback and discussion about how these different goals can compete with each other.

Susan.

MS. CLARK: Thank you, Mark.

Let me just say I'm Susan Clark, I'm here on behalf of Tampa Electric Company, Gulf Power Company, Florida Power and Light, and Progress Energy, but they also have

representatives from their individual companies here as well at the table to participate in this workshop. Let me just indicate we have Tom Hartman down at the end. Next to Tom is Anne Grealy. They are here for Florida Power and Light. Then next to me on my left is Dave Gammon and then Ken Fanchee there with Progress Energy. After Ken is Bill Ashburn from Tampa Electric Company, and then next to Bill Ashburn is Bob McGee with Gulf Power.

I'm going to make an initial statement regarding the goals and also be prepared to respond to the individual items in the agenda, but the utilities are here to also jump in and join the discussion and add to comments as appropriate.

I think it would be helpful, as you have done, to talk about the goals and discuss the various public policy objectives that have been put forth for pursuing an RPS. You have the Governor's Executive Orders and then you have Section 366.92. And 366.92 puts out -- enumerates policy objectives, and you have listed some of those in your agenda. It describes those objectives as developing renewable energy, providing fuel diversity, reducing dependence on natural gas and fuel oil, minimizing fuel cost volatility, encouraging investment in the state, improving environmental conditions, and at the same time minimizing cost to customers.

Now, the Governor's Executive Order 07-127 speaks to the reduction of greenhouse gas emissions, and it provides a

time frame for that. By 2017 it calls for reducing greenhouse gases to the 2000 level; by 2025 it calls for reducing greenhouse gases to the 1990 level; and then again in 2050 it calls for reducing them to 20 percent of the 1990 levels. And that same order speaks to the establishment of a 20 percent RPS with a strong focus on wind and solar.

Now, the theme of the Governor's orders in his climate change summit seems to be the reduction of greenhouse gases. If that is taken as the overriding purpose of the RPS, then perhaps it's appropriate to talk about a clean portfolio standard which would include renewables as well as other carbon reducing or avoidance measures and technologies. If the purpose of the goal is rather to address public policy objectives as they have been enumerated in the statute, then there must be consideration of those objectives, as well.

The point to be made is there are multiple considerations and objectives that affect the structure and level of any established goal. For example, if the rate implications of a proposed RPS are significant, should that goal be scaled back or should the time frame for reaching the goal be lengthened. The IOUs are prepared to participate today in your workshop and give you their current thinking on the various questions you have posed in your agenda.

We believe there is a need for more education and information on structuring the RPS. For instance, you have

renewable energy credits listed on your agenda. The question is how do they fit into an RPS, how would they work, how would they be traded. I think it would be well to look at how other states' RPS have been developed and if they are working, and I understand you have the gentleman from Navigant to help you and help educate us on that.

There needs to be an estimate of the rate and bill impacts to customers. I think the pursuit of an RPS must be considered in light of the customers' needs and the utility's obligation to provide safe, adequate, and reliable service at fair and reasonable rates. So I think we need to keep that in mind as we move forward.

Having said that, we're prepared to talk about the specifics of the goals and objectives. If we are talking about what we would call a clean portfolio standard, we would describe the goal and objective as to cost effectively promote the use of clean energy resources, provide fuel diversity and energy security, and achieve reductions in greenhouse gases from the production of electricity as specified in the Governor's order.

If the goals and objectives are as set out in the statute, then I think the statute provides you with those guiding principles which you have enumerated in your question. We understand that the reduction of greenhouse gases is not specifically mentioned in that section, and I think it can be

expected if you focus more on just renewables, you might expect a more limited impact on the reduction of greenhouse gases.

That's kind of our initial comments on this. We're happy to answer questions, or if any of the utilities want to add to that.

MR. TRAPP: I'm Bob Trapp of the Commission staff.

Ms. Clark, you've enumerated, I think, the goals that have been specified by the legislature and then those outlined in the Governor's Executive Order. Do you find there to be a conflict?

MS. CLARK: I wouldn't describe it so much as conflict, I see them as multiple objectives that need to be addressed. I think the achievements of the greenhouse gas reductions are likely to require other focus, not just on renewables.

MR. TRAPP: Are they not all laudable goals?

MS. CLARK: Yes.

MR. TRAPP: Is there anything wrong with us citing all of them or would you recommend that we pick some out of the list?

MS. CLARK: I wouldn't recommend necessarily that you pick one, but I would say to you that when you look at all of them -- let me put it this way, if you pursued one of them you might pursue a different strategy than if you have to pursue all of them, or if you want to achieve all of them, or

reasonably achieve all of them. In other words, if you are simply going after greenhouse gas emissions, there may be a more cost-effective or a more rapid way to get there than through renewables alone.

MR. TRAPP: Is there anything wrong with picking all of them?

MS. CLARK: Sorry?

MR. TRAPP: Is there anything wrong with picking all of them?

MS. CLARK: Picking all of the goals?

MR. TRAPP: Stating all of those purposes as what we're trying to achieve with this.

MS. CLARK: No.

MR. TRAPP: So your concern was over how we would prioritize those goals and what programs may be falling out of that?

MS. CLARK: Yes.

I would say my concern is that the pursuit of one as opposed to pursuing all of them would get you to a different place, or the means of getting there would be different.

MR. TRAPP: Thank you.

MR. FUTRELL: And following up on that, at this point in your thinking would you put more weight on one, two, or some more than others?

MS. CLARK: Goals?

MR. FUTRELL: Yes.

MS. CLARK: Well, I guess I would -- there is certainly an interest by the executive branch of the government to focus on an environmental issue of greenhouse gases. So I certainly think that is one that needs to be kept in mind, but also keeping in mind that what the statute has provided as the goals for the Commission or the public policy goals for the Commission in establishing an RPS goal.

MR. FUTRELL: Does anyone have more comments?

Barry.

MR. MOLINE: Barry Moline with the Florida Municipal Electric Association.

We echo a lot of what Susan just described. We believe that the goal should be clean generation, and I'll add one more in a second, but clean generation clearly as a result of the sort of amalgam of what the governor has proposed has an emphasis on low carbon and low emissions. The governor uses the word renewable, and we have to define what that means in the context of each of the technologies that is pursued.

We also think that reducing kilowatt hour consumption through efficiency and conservation would also meet the same goal of low carbon or low emissions. A kilowatt hour not used will likely have a lower carbon or lower emission profile than one that is used. So, in the list of goals that you describe, all the goals are good. I would probably prioritize lowest

economic development. I mean, while I think that is a laudable goal, I don't think that that is one that necessarily supersedes the others on the list. But I agree that greenhouse gases in the context of the executive orders is probably the highest priority and right below that or right next to it is minimize cost.

MR. BRYANT: Fred Bryant, Florida Municipal Power Agency. I sort of have an overarching question, and the reason I say it's overarching is because we have a capitalized term it appears to me that is used not only in the title, but throughout the agenda, and that term is renewable portfolio standard. Is there a definition anywhere in the Governor's Executive Order or in the statutes that defines what a renewable portfolio standard is? I guess for me that's sort of a starting point, because I would like to know since that is a term that is being used throughout what is it that we are dealing with.

MR. FUTRELL: The executive order states that the Governor requests the Commission take the following actions for the electric utility sector in order to open the market to clean renewable energy technologies thus avoiding future greenhouse gas emissions. And the first one is not later than September 1st, 2007, initiate rulemaking to require that the utilities produce at least 20 percent of their electricity from renewable sources (renewable portfolio standard) with a strong

focus on solar and wind energy. That is the executive order. And then there is the 366.92, which discusses goals, renewable goals.

MR. BRYANT: Right. I understand.

MR. FUTRELL: That's the extent of the definition, except for what has been -- the experiences in other states that we have to go with.

MR. BRYANT: So would you agree that it might be constructive during the rulemaking process if the group comes up with a definition of what that term means, since it's not defined anywhere? It's not defined in the Governor's Executive Order, which some lawyers might say his executive order doesn't really have the force of law, so I would assume in the rules, which will have the force of law, that should be a defined term.

MR. TRAPP: I would to respond to that if I could. The answer to your question is yes, we need to define renewable portfolio standard. I would like to ask a question of Barry, though. You mentioned including the potential for conservation, energy efficiency, end use efficiency as part of this definition. Why would you do that? I mean, the Commission already has FEECA goals out there that apply to at least a subset of the utilities that are covered by the Governor's order. Why would you go beyond that?

MR. MOLINE: The most obviously reason is that

20 percent is a big number. And based on, you know, early analysis, it appears as though with a strict definition of renewables and an emphasis on solar and wind, that 20 percent is going to be difficult to get to. If we end up including nuclear, for example, probably it's easy to get to.

Five states and the District of Columbia include in their renewable portfolio standards efficiency and conservation out of the 25 states that have RPSs, and those five states, or those six, actually, including the District, are relatively recent and, in my opinion, they are a progression of RPSs nationwide. Early states focused only on renewables, more recent ones have included efficiency because they have set big goals. The goals we are looking at now are in the 20 to 25 percent range in these individual states, and as a result I think that they have recognized that there may be, you know, what we have heard, you know, low-hanging fruit, opportunities for efficiency and conservation that maybe even we have not yet considered. So that's why if there is an opportunity out there to expand our goals, then that's why we recommend that they would be included.

MR. TRAPP: I guess I'm conflicted, because, you know, there is a FEECA statute, and it establishes a goal program by the legislature. And I guess what I'm hearing you say -- what I heard you say to begin with that you would prioritize the purposes of this effort as, number one, reducing

greenhouse gases and, number two, maintaining some kind of control on cost. Am I hearing you say that you believe, at least for the people that you represent, which I understand to be the municipalities which, really, most of which are not covered by FEECA, that that is your low-hanging fruit, that is your most cost-effective means of reducing greenhouse gases?

MR. MOLINE: Well, without the data in front of me I can't answer that question accurately, but I think that's possible. I think that is possible. And if we look at it another way in that -- let's assume that there are opportunities and efficiency in conservation statewide that we have not yet tapped into. If that is a low emission or no emission tool in our tool box, why would we ignore it?

MR. TRAPP: Okay. Is there an opinion shared here? Bob Graniere wants to jump in.

MR. GRANIERE: I have a question. The one thing that I haven't heard so far is the interaction between the Governor's Executive Order on what we might call the Florida version of a Kyoto protocol and the executive order of what we might call the RPS order. I'd like Barry to respond to the situation as given that both executive orders are in effect, why would any energy efficiency or energy conservation be ignored when you have the Kyoto protocol executive order in effect which basically is focused exclusively on greenhouse gas reductions?

MR. MOLINE: Are you calling the Governor's Executive Orders the Kyoto executive orders? I'm just trying to clarify here.

MR. GRANIERE: No, there's two of them. There's two of them. There's the executive order that talks about a greenhouse gas reduction by 2025, there is one part of that executive order, and then is the other part of the executive order that asks for a renewable portfolio standard. The part of the greenhouse gas reduction standard looks just like a Kyoto Protocol; and, therefore, the arguments that say that energy efficiency and conservation should be part of a renewable portfolio standard because they won't be captured elsewhere is, I think, an overstatement, because all of those things would be captured under what I am calling the Florida Kyoto protocol version of that executive order.

MR. MOLINE: Well, I believe that there are efficiency and conservation measures that are above avoided cost or above the RIM test today that utilities may not be implementing in their efficiency and conservation programs. So to the extent that those programs are not being addressed, I think that they would be or should be included in this effort if we are looking to control costs. And further on we will talk about the effort to control costs, but we're suggesting a defined budget that would be tapped into for those above avoided cost projects. So I would include efficiency and

conservation in that list of possible measures that are above cost yet not being tapped into today.

MR. GRANIERE: So let me see if I understand. The reason is that you need to have them in the renewable portfolio standard in order to do above-cost conservation, as defined, conservation and energy efficiency because the greenhouse -- because the greenhouse gas reduction portion of the executive order is not sufficient to induce people to do this?

MR. MOLINE: Well, I think that when you look at the greenhouse gas component of the order, which we talked about a bit yesterday at the Department of Environmental Protection, a lot of the measures that are being addressed or might be addressed to meet that goal would probably be related to nuclear energy. And you might even see in the assumption of your question that unless efficiency and conservation are included here, that they might actually be overlooked completely.

MR. TRAPP: Are the two mutually exclusive? It's not clear in mind. Are the two mutually exclusive? Don't they ride together.

MR. GRANIERE: That's my point.

MR. TRAPP: Don't they overlap? And to the extent you would include it in one program, it is also going to benefit the other problem and vice versa?

MR. GRANIERE: Right. But what happens is that if

you include them, if the Commission were to choose to include them in the lower ranking part of the executive order, the lower ranking part being the renewable portfolio standards because its greenhouse gas reductions are less than what can occur by means other than renewables, they essentially get double counted. I mean, they essentially get displaced.

Think of it this way. Think of a renewable portfolio standard that is 10 percent -- that contains 10 percent energy conservation and energy efficiency and 10 percent renewables. Assume that target is fulfilled. So now you've used up 10 percent of the available energy efficiency and conservation to do the renewable part of that thing, which means that 10 percent is not now available to do the greenhouse gas reduction or Kyoto Protocol part of that goal.

Now, since more greenhouse gas reduction is required under the Kyoto Protocol part of the report than is required in the RPS part of the report, what would be happening is basically greenhouse gas reductions related to energy efficiency and energy conservation are being syphoned off in the name of renewables and not, therefore, available to be captured in the name of the Kyoto Protocol.

MR. MOLINE: Can I respond?

MR. TRAPP: Yes.

MR. MOLINE: You know, to some degree I think we're getting bogged down by words and definitions and losing track

of the larger goal. Because actually one thing that we will recommend later today, I'll starting now, is that whatever we do, whatever road we set down on, we need to reevaluate this every few years, and I would recommend every three years, that we make sure that the 20 percent goal is reasonable. Maybe based on what we define here it's a 30 percent goal, maybe it's a 10 percent goal. I'm not really sure. Whatever cost controls we implement, maybe they're too low, maybe they're too high. The point is that we won't know because you have to actually implement things and start down the road and then reevaluate.

So to describe, as Bob did, and I don't mean this as a criticism, Bob, it's just that if we say 10 percent renewables, 10 percent efficiency, you know, if we reach that goal of 10 percent renewables and we find that through an analysis there is more available that's untapped, we need to raise that goal in three years from now if that is the evaluation time period, or maybe it is five years. But the point is that we do need to set the standard at some place. We think that all the tools that we have available to us should be included, and that includes efficiency, and conservation, and renewables, and then let's, you know, make the goal reasonable. The Governor has already said 20 percent, and then evaluate and then readjust if necessary.

MR. TRAPP: Mark, I had one more question if I might.

I had one more question and then a suggestion, and I think I'll ask the question, but my suggestion is that we move down the table and get the other side of the picture. Because so far we have heard from the utilities primarily, and I think it's important that we hear from the people that are actually going to be turned to, I think, to produce some of these renewables and other measures.

But my question, I'm not sure I still understand the Kyoto Protocol analogy and everything, but what I think I did hear was that there is some need to balance dollars with the percentile goals, or kilowatt hour goals, or whatever kind of goals it is that we do set. And that in balancing dollars with percent achievement, you have to do some kind of prioritization of the measures that you're going to go after, which, again, gets into the issues of set-asides and assignments.

So far, I think, the discussions that I've heard have focused on kilowatt hour set-asides. But under your proposal -- and we were planning to not get to it until lunch, and you've already got us in it, but that's okay. Wouldn't you also need to do dollar assignments, dollar set-asides to tie to the kilowatt hour set-asides if you take that approach?

In other words, you want to try to get your low-hanging fruit, and one way to do that might be to assign some percentage of the goals to that category, and an amount of the dollars to incent those efforts.

MR. MOLINE: I think that setting the goal as a percentage and then allowing the implementors, the utilities, to then seek the most cost-effective options is really the approach to take.

MR. TRAPP: So you think the dollars will fall out once you set the goals and their priorities?

MR. MOLINE: Well, yes. I mean, I would only speak for ourselves, but most likely what we will do to some degree is we will have a combination of utility efforts and issue RFPs. Go to the market and let the market tell us what the price is. Here's our goal. I mean, clearly we have this 20 percent goal. Give us as much as you can and show us the price.

MR. TRAPP: And what I heard your proposal to be, though, was that in going to the market you would offer a market price, I think we called it avoided cost, you offer a market price, but then you're also suggesting that there be a pot of dollars that sweeten that pot, that go beyond avoided cost, that add to that to try to attract some of the, perhaps, not so low-hanging fruit, the more costly technologies, but that have a bigger bang for the greenhouse gas or other types of goals. Is that what I am hearing?

MR. MOLINE: Yes. I can explain that further, since you have talked about the issue of cost or cost control. Is that okay to get into?

MR. FUTRELL: Right.

MR. MOLINE: What you have alluded to is that what we have suggested is, essentially, something like a public benefits charge. We have suggested one percent of total revenues. We think that that number could be done differently, it could be on a per customer basis, it could be based on customer class, but the point is that there be a ceiling of costs that customers know what the cost is, or what the investment is in green energy, we have called it, because we have lumped them together. If you want to call it clean energy, that's fine, but the combination of renewables and efficiency and whatever we define in the pot of potential tools.

That money would not -- like, for example, if we look at a biomass facility, the output of a biomass plant, and I'm, just for the sake of example, just making this up. If today's avoided cost, the cost of generation is six cents for conventional generation or conventional energy, the cost of the biomass facility's busbar cost is eight cents, so there is a two cent difference, we would say that public benefits fund would pay for just the two cent portion, just the above avoided cost portion, not for the whole eight cents.

So that is a signal to developers that here are funds available, we've committed to above avoided cost that will go toward meeting the 20 percent goal to the extent that we can,

but because we are interested in cost control, we are going to cap that. And simultaneously we may go after, you know, efficiency options that cost less than avoided costs, we're not sure. There may be renewable technologies that cost less. You know, they would be stacked and we would go after those lowest cost ones initially unless there was a multiplier or some emphasis on solar or wind as has been suggested by the Governor.

MR. TRAPP: And the utility would administer those dollars and decide where they went?

MR. MOLINE: Yes. And also by reporting to the Public Service Commission, or reporting back to.

MR. TRAPP: Okay.

MS. HARLOW: Mr. Moline, let me just clarify your definition -- since we are going back to definitions that Mr. Bryant mentioned -- of a clean portfolio standard. I have heard you mention renewables and also energy efficiency, but in your definition have you expanded it beyond those two resources?

MR. MOLINE: Well, we haven't defined what the meaning the word renewable is yet. Are you asking the question are we including nuclear, is that your question? You've got to give me more specifics. Have we defined it, is that your question?

MS. HARLOW: Yes. Do you have a definition at this

point? Are you clear in your own mind? If you were to design the portfolio standard, what would you put in the mix?

MR. MOLINE: Sure. Okay, I understand.

Well, we did produce, you know, on paper a proposal, and in that proposal we included a list of technologies that we thought would be included or should be included. The way we got the list was by looking at other states' renewable portfolio standards, and that was it. We were agnostic as to the technologies. We just figured that that would be open for discussion and then simultaneously open for prioritization.

Some of those technologies actually have emissions and some don't, and we thought that at some point we have to do an analysis of each one of those and say do we want to emphasize ones that are zero emissions over those that have some emissions, or maybe some that have a zero carbon footprint versus others that have some carbon footprint. So the point is that, yes, there is a list. That list that you will see on Page 2 of our proposal is our best, you know, bringing together of all the other states' RPS list. Except for Pennsylvania, which has some more conventional technologies on their list.

And I do have a table that includes all the technologies that I can share with you all that has what states have what technologies in their definitions.

MR. BRYANT: And might I add to that, Mark. You will note in the list of renewable technologies -- Fred Bryant, I'm

sorry -- that the last one listed, and certainly the list all may not be appropriate and it might not be totally inclusive, but just so you'll sort of get the flavor of where our individual municipalities are, was Number 20, other resources identified by individual utilities and approved by the PSC.

The point there being as sort of a lofty conclusion of the list, but it means once the list is adopted that shouldn't be it. And that both the industry -- and when I say industry, I mean everyone that's involved in the industry, not just the incumbent utilities -- the industry and the PSC should be constantly looking at the list and thinking where it's best, and that is why Barry indicated a constant review process maybe every three years, maybe every five years, adding to the list of what our renewables and what's within the definition would be something that we would want to focus on.

The other thing that was discussed amongst our board of directors, and it's not on the list, and Barry mentioned is nuclear. And I think that nuclear should be part of the debate and discussion whether or not it's listed in renewables or in the definition. We shouldn't get caught up in definitional problems as opposed to making sure that we solve the problem by the most efficient, the best, resources. And if some advocate nuclear as an important part of that, to define nuclear out by practice or definition might be a little foolish for all of us in the industry. So I think that is why I asked the first

thing, what is the definition? Because that will control a lot of the debate, and we need to be very careful about that definition.

MR. FUTRELL: Casey.

MR. HINTON: This is Casey Hinton, Commission Staff.

When we are talking about defining what renewable resources we are going to include in the RPS, we need to discuss how controlling the Governor's Executive Order is and how we define that and what technologies we include. Whereas the executive order doesn't necessarily lay out a definition, subsequent statements have, I believe, ruled out nuclear, or at least said that that wasn't intended, or, you know, statements that renewable means renewable, you know, meaning perhaps they did intend to include energy efficiency. So, if we are looking to define RPS and what type of technologies go in, how controlling is the executive order when we are looking at thinks like energy efficiency and nuclear energy that the Governor may not have intended.

MR. BRYANT: I hope the Governor is not listening to my response to that, but we are still a state governed by the rule of law. And I think that we have got to make absolutely certain that the rules adopted are in accordance with the rule of law. And I suspect there are those in the legislature, based upon what I have read, that might think that there needs to be some clarifying law.

So I don't want to get hung up, personally, in seeing that the Governor's Order is what must be followed, because I think there will be some disagreement amongst those in this state -- in this room and, more importantly, those in the Legislature who might have a different feeling about that.

So I encourage us to focus on the solution, not on what the governor has in his executive order. And I think it can be done hand in glove. I would suggest we avoid worrying about litigation, and we can do that if we focus on what really is the intent of, I think, the Governor's order and what you have in the law today.

I hope the Governor hasn't listened to my criticism of him, but --

MR. TRAPP: Mr. Bryant, we are just simply amazed that the first argument from you was that we didn't have jurisdiction. We are just so appreciative that you're here willing to work with us on this. I agree with you, to some extent, that we need to have a little broadmindedness about this and design a program that is in the best interest of Florida consumers, but let me go to a point that you did raise. And we seem to be jumping all over this agenda, and that's okay with me, and if anybody objects they can pipe in. But the point with nuclear, if I understand the Moline approach, is to assign a lump of dollars -- I have been there before with the Moline approach, by the way -- but assign a lump of dollars

with which we will incent above revenue neutrality which has been the Commission's goal for many years as maintaining, you know, revenue neutrality with respect to the alternatives that we purchase. They have to be what we would otherwise have spent if we did it ourselves type of approach.

You're going beyond that now with a lump of dollars out there to incent further the development of these good things. And I understand it's about $200 million starting out escalating at 3 percent. Five billion dollars over a 20-year time period, or something of that order. How much of that $200 million are we going to spend on nuclear? See, that's the problem I have with including nuclear in this. How much of those dollars are you going to spend on nuclear? We already have programs for nuclear cost recovery.

MR. BRYANT: An excellent question. That's the reason it's not on the list for items that that pot of money is to be spent on. The whole point that I'm making, let's assume the Florida Municipal Power Agency decided to build a nuclear unit on behalf of its 15 all requirements members, and we were able to shut down 80 percent of our --

MR. TRAPP: Was that a commitment?

MR. BRYANT: -- 80 percent of out generation. Let's just pretend.

MR. TRAPP: Put it in the new Ten-Year Site Plan?

MR. BRYANT: And let's pretend that that accomplished

the goal, the 20 percent reduction, any of the goals that were adopted by the Commission. I would hate to think that the State of Florida or this Commission would say, no, we don't want you to build nuclear power and do that at a cost-effective rate. We want you to do that through biomass at a higher expense that reduces CO2 still to the atmosphere, but at a lesser level.

All I'm saying is from a utility perspective let's not withdraw from the options on the table. Let's encourage options on the table. That's not in the list that Barry and the board of directors have said that this list, whatever the list ends up being is what that pot of money should be utilized to absolutely incentivize us going after the renewables, but that's the whole point I was making.

We had that debate in our board of directors meeting, and we all said, fine, but don't -- we had nuclear in this list and we took it out and said, no, that's not appropriate here, but make sure it is in the paper. And if you notice in the paper, the proposal that FMEA has, nuclear is mentioned in there. That's the only thing I'm saying.

MR. TRAPP: Well, I think it goes back to the comment Mr. Graniere brought up earlier. There's another place for nuclear and that's to reduce the greenhouse emissions where that is a specific targeted goal program. Our discussions are revolving around -- I think we are still on Item B, which is

what are our goals and objectives here, and are we going to have a broad fuel diversity through CO2 emission gambit or are we going to just focus in on greenhouse gases and nothing else.

I think the more inclusive you get, the more programs can come in. At the same time, I think we need to be mindful about what is going on in other arenas such as the CO2 Reduction Executive Order, what is going on with respect to statutory programs already in effect with regard to FECA, with regard to cogeneration, with regard to renewables, contracts, and all that other kind of stuff, and design a system that builds on the success that we have already accomplished. That's just my stump speech.

MR. FUTRELL: Bob.

MR. GRANIERE: I have one question, and I will give an answer with the question and ask each of the utilities to respond to it. What I heard so far was that the approach would be -- that is being talked about right now would be to take the low-hanging fruit, also called the cost-effective things first.

Let me ask this question. Suppose that -- and there is this cap on the expenditures. Am I right so far? There's a cap on the expenditures. And each utility has a cap on the expenditures. Let me assume that in doing this, what happens is that 100 percent of the assigned money via the cap decides that the most cost-effective use of that money is energy efficiency and conservation and nothing else.

My question to each of the utilities is does that mean that during that year and each year thereafter where that is met, that each utility will take no action in renewable energy as traditionally defined, yes or no?

MS. GREALY: I'll speak for Florida Power and Light. Anne Grealy.

I would hope that the structure that we eventually develop and come up with would certainly accommodate and encourage energy efficiency. I, for one, don't see how the reduction or avoidance of greenhouse gases and filling a clean portfolio standard or a renewable portfolio standard aren't mutually exclusive. But I would hope that whatever we develop here would have a structure that would encourage energy efficiency, the develop of solar and wind. So, again, I think that we can construct something that would incent and accommodate both of those, or all of those.

MR. FANCHEE: This is Ken Fanchee with Progress Energy.

I guess the only thing I could say is right now we have a cost-effectiveness test for renewable energy, and I don't see that Progress Energy wouldn't continue to be aggressive in applying whatever that cost-effectiveness test and standard was. Within the last year we've signed up 200 megawatts of renewable energy at that cost-effectiveness test that's in existence today, and I believe we would continue

to look for every opportunity to continue.

MR. GRANIERE: So does that mean if there isn't any cost-effective opportunity the answer is no?

MR. FANCHEE: If there is no cost-effective opportunity, I don't believe we would have the authority to sign up those contracts.

MR. ASHBURN: This is Bill Ashburn at Tampa Electric. I guess I would echo the same point, Bob, is that it's really not a yes or no question. You look for what is cost-effective and what's available either in renewables, or efficiency, or conservation, and you pursue all of those at the same time. I don't think you just exclude anything.

MR. GRANIERE: So I guess the answer to the question is that if the stacking has energy efficiency and conservation all stacked up, and if that exhausts the money, the answer is yes, you do all the energy efficiency and conservation and no renewables.

MR. ASHBURN: I don't think things get stacked. I think you look at everything at the same time. And as things are cost-effective and are picked, you go down those roads. And that may be a renewable producer, it may be efficiency. I don't think you stack the categories and then just pursue one category and leave it at that.

MR. HINTON: This is Casey Hinton again, and I just wanted to jump in real quick. In my earlier question I had

intended to address that to everybody that's here and not -- I appreciate the response I got. In relating with this conversation before we get too much further, I am curious to see how the industry, perhaps other renewable generators feel about the flexibility this Commission has to construct an RPS that would include things outside of what may be within what we presently have defined as renewable energy in light of current statutes and the executive order by the Governor.

MR. MOLINE: Casey, before doing that, can I just respond to Bob with one just additional point, and that is that, Bob, it appears from the assumption in your question that you're concerned that some renewable energy may cost more and, therefore, not be in the cost-effective stack that get implemented. And we would recommend that we look at the costs of all renewable energy, or really all clean energy that's available to us, and we define that as renewables and efficiency, and if there are technologies, and the Governor's order says with an emphasis on solar and wind, if there are technologies that are more costly, then we explicitly identify those with a -- we recommend a multiplier. Every megawatt hour of output from that technology is counted for more, and that is a subsidy. There is no question about it.

The order says emphasis on and that is the implementation component of it, subsidy, provide some kind of an adder. And now you have -- in advance, yes, you know, gamed

the system, but done it in a way that emphasizes certain technologies. So that's what we recommend to, in advance, try to focus more on those technologies that you want to emphasize, you know, quote, unquote, renewable. And then, again, as we recommended earlier, adjust those or evaluate those every few years because costs are going to change. Economics are going to change, and you don't want to have a subsidy continue forever when it's not necessary.

MR. TRAPP: Barry, if I might. I think that goes straight to Bob's question, though. If you put a multiplier on the kilowatt hours, but not a multiplier on the dollars, you might wind up with all the dollars going to the one with the highest multiplier. And if that is not renewable, is that in compliance with what we are being charged with doing here both by the Legislature and by the Governor to promote renewables?

I come back to my other question. Don't you need to assign -- if you are going to include conservation, don't you need to assign also not only the kilowatt hours that you are going to count toward the goal, but the dollars that you are going to commit to incent that function. And it may be that we only want to put 10 percent on conservation and 90 percent on renewables, or 90 percent on conservation and 10 percent on renewables, depending on their relative cost-effectiveness ranking. I still think you need to -- if we're going to include everything in this bucket, then it seems to me that we

need to control the proportions in the bucket by the amount of dollars that are incented as well as the kilowatt hours being incented under your proposal.

MR. MOLINE: Controlling the portions in the bucket is a subsidy. We have to recognize that. If we say that two percent is from solar, you can easily backtrack and determine what that subsidy is.

MR. TRAPP: But it is a subsidy to get a social goal which we are trying to define here.

MR. MOLINE: Sure. We would recommend identifying the subsidy at the front end with a multiplier and saying the subsidy is two times or three times and now we know we can do the economic analysis as well as the developers.

MR. TRAPP: You are only going to do that on the kilowatt hours, though. How do the dollars flow? How do you decide who gets the dollars?

MR. MOLINE: Do you mean when you have projects proposed how do you decide who gets the dollars?

MR. TRAPP: Yes.

MR. MOLINE: If you have two projects sitting in front of you simultaneously, is that your question?

MR. TRAPP: One is a conservation program, one is a true renewable, a wind generator. You have got a limited pot of dollars that is constrained by what you think the public will accept in terms of higher bills.

MR. MOLINE: And they have equal economics, is that what you're saying in the assumption of your question, equal economics? Two projects with equal economics.

MR. TRAPP: Well, that's what I'm getting to. How would you -- are you ranking by cost-effectiveness again?

MR. MOLINE: Well, if you've got two technologies, biomass or waste-to-energy over here, solar over here, you have done your subsidization and they both come out equal. I don't know how you would choose. The only thing -- I mean, if you have already included the subsidy, if solar already has its subsidy that includes its economic difference as well as its carbon footprint and emissions profile, and through all of those things it equals an investment that you're looking at that is something else that is not, quote, unquote, emphasized in the executive order, they would look equal. And there may be other factors that would be included, such as availability, reliability, and so on, that the utility would want to look at. But ultimately, based on those criteria, they would look equal.

And I understand the point you're trying to get to is that if you segregate out in the bucket, you know, so much from solar, so much from various technologies, we're put them in tiers or so on, then you will, at a minimum, get those technologies because you've said we want them from this bucket. This bucket over here gets so much percent. So I understand what you're saying.

MR. TRAPP: But, again, I think in terms of both the kilowatt hours and the dollars, in order to meet our goals, we have got to put some -- if we're going to include an all-encompassing bucket, we've got to include -- if you go tiering, tiering says you have given different priorities for different things. For instance, should we rank technologies and programs by whether they produce carbon or not? Shouldn't they be top tier? Conservation might be in there. Conservation most likely is in there unless you are using a Honda generator to generate self-service generation. And then go down that list -- and this is Item D, I think, on the program -- but go down that list to, you know, methane substitution for carbon, because that has some benefit, and then go down to, well, at the bottom of the list is old combustion technology that's putting carbon in the air again, but is producing some efficiencies. You would have to do some kind of ranking either of technology, weighting of kilowatt hours, weighting of assigned dollars, and I guess we've got to look at all of that. Is that --

MR. MOLINE: We would recommend that we look at all of it, exactly. And it gets to be, you know, ultimately a policy call.

MR. TRAPP: Well, that's my other question. Are utilities going to do all of these decision-makings or are we going to try to do it in the rulemaking? Are you going to

decide where the dollars are spent?

MR. MOLINE: That would be our preference.

MR. TRAPP: I kind of figured that.

MR. MOYLE: Mr. Chairman, can I ask a point of clarification? I'm John Moyle, I represent a renewable energy resource, Wheelabrator Technologies, which is in the waste-to-energy business.

I think the original question that was posed indicated that the proposal by Mr. Moline with this one percent of revenues being set aside and devoted and available to renewable energies was termed a utility proposal. Just for clarification, is that something that the utilities support, this one percent, or is this exclusive to Mr. Moline and his clients?

MR. MOLINE: I'll just start out on that, if that is okay. That one percent proposal was meant to be a starting point for discussion about cost cap. We could say -- we could have put in our proposal we need a cost cap, but we thought that would be valuable to illustrate what a reasonable cost cap would look like. And, by the way, look at one percent, it gets you a lot of money. So the idea of one percent is important.

We also have gotten some feedback that has suggested that from large customers one percent would be a lot of money and maybe their costs should be capped at a lower number and some states actually do that. And we also have gotten feedback

from low income customers that one percent, you know, may be difficult to say that would tip them over the edge of not being able to pay their bills, but the point being maybe they need some additional systems of weatherization assistance.

The point is it has sparked a discussion about having a budget. I have also heard that maybe that number should be so that if it is lower -- it could be one percent, it could be a dollar figure per class of customers, but the point is that we believe ultimately that there should be some kind of a cost cap and that the feedback being it could be different based on customer size.

MR. MOYLE: And I guess I was just trying to understand whether this is unique to your client or whether the other utilities have also said, yes, we think one percent is a good starting point for some discussions and negotiations as we move forward.

MS. CLARK: I would indicate that we do think that it would be reasonable to have a cap. Because, after all, the statute talks about minimizing costs to customers, and I think that's something that needs to be explored as to what is the appropriate cap based on what may be out there. Certainly, I think you don't want to provide an unnecessary windfall to achieve the generation by the renewable providers, but there should be a cap. And at this point, you know, we are looking at the one percent and does that make sense, one percent of

base revenues. You know, it is a good concept.

MR. FUTRELL: Schef.

MR. WRIGHT: Thanks, Mark.

I'm Schef Wright, and I represent a number of renewable energy producers, including Biomass Investment Group, who are partnering with Progress for e-grass, or Arundo donax fired plant. I also represent two or three waste-to-energy clients. I also represent horse owners who are looking to develop manure-based electric generating facilities which would qualify as renewable.

There has been lot of talk about, I think, where the RPS fits in here, and I would like to start at the top and share with you how I look at this. I think the underlying goals and objectives are as articulated in Paragraph B on the agenda. I think that reducing greenhouse gases and energy security, which I also call energy self-sufficiency, are the most important goals. Fuel diversity, I think, is so closely related to the energy security factor as to really tie right into that. And minimizing costs is very important. You know, I/we certainly agree with that, as well. I would characterize it, though, to be clear as minimizing costs to meet whatever goals are established for the state to address the greenhouse gas issue and to promote energy self-sufficiency for Florida. So that is what I think the underlying goals are.

And you all know I like details, and I'm going to

throw out a few details, but I'm going to be as brief as I can, because I know we are already kind of at the end of B, but we are skipping around, and I am really going to try to be brief. This is a big picture deal. In the big picture here are some numbers. We import -- let me do it differently. In 1990, Florida's NAL was about 140,000 gWh. In 2006/2007, it's about 240,000 gWh. Based on some projections I have made tying to and extrapolating, I think, very reasonably from the census and BEBR projections of Florida's population, by 2025, which is one of the focal point years articulated in the Governor's goals, we're going to be looking at about 340,000 gWh. It might be 335, it might be 350. But I want to make it clear that, in my view, that that is 340,000 gWh, 340 billion kilowatt hours of what is a reasonable projection of what customers/consumers in the state of Florida are going to want in the form of energy services. It doesn't necessarily have to be kilowatt hours, it's kilowatt hour equivalent of energy services.

So that is kind of the big picture thing. Based on the best numbers I can find out of various PSC publications, for our electric generating fuel supply we are importing around 97 percent from other states and/or other countries of our electric generating fuels. Now, that does include nuclear. If you take nuclear out, we are importing whatever it is, about 85 percent. Well, we are importing -- we are using fossil fuels to generate about 85 percent of our total net energy for

load. Unless you want to count the little bit of oil that is being produced in Jay, we're importing all of it. So that's kind of the context.

So back to the ultimate goal. The goals, I think, are address the greenhouse gas issue, very important; address the Florida energy self-sufficiency issue, also very important. How we get there needs to be considered in the context of everything. The renewable portfolio standard, it seems to me, is a potentially meaningful and entirely appropriate part of meeting the overall goal. But you can't do anything -- well, you can. I would suggest that it's not the best plan to try to do anything in isolation. You need to consider energy conservation. You need to consider renewables. Nuclear is on the table, and I have a couple of thoughts about that that I will share in a minute. But it's all there.

The ultimate goals are, I think, address the greenhouse gas issue, have Florida energy self-sufficient. I don't think it matters a whole lot whether the particular kilowatt hour is an equivalent kilowatt hour produced by a solar thermal water heater or a kilowatt hour produced by my client's biomass plant, or a kilowatt hour produced by John's and my waste-to-energy clients, or a kilowatt hour produced by an ocean current hydrofacility, or a kilowatt hour not produced, but the equivalent energy contribution of a kilowatt hour produced by improving the Florida Energy Efficiency

Building Code. You need to consider everything together.

Now, having said that, the numbers are really big. If you were to hold -- remember, 140,000 gWh in 1990; 340,000 gWh in 2025. And this is not a realistic assumption, but it's illustrative and I'm going to start with it. If you were to hold the generation mix from 1990 constant, that would mean you would need to replace/displace 200,000 gWh of energy equivalent service by 2025 with something that was carbon neutral.

Now, the reason that's not a realistic assumption is the advent and the widespread development of gas-fired combined cycle unit which has a much better carbon footprint than other technologies. Methane has a lesser carbon footprint than coal to start with, and as we all know, generally speaking the operating efficiencies of combined cycle, gas combined cycle plants run in the 7,000 range as opposed to the 9,500, 10,400 range of coal plants. But even if you were to displace all the coal with gas-fired combined cycle, and that's a hypothetical option, I'm not advocating that at all, you are still looking at a really big number. Probably on the order of 100,000-plus gigawatt hours of energy equivalent to be displaced with a carbon neutral source.

One point is this, we need to do everything we can do. And we need to start sooner rather than later, because there are definitely some lead times for this stuff. Energy efficiency needs to be there, the building code needs to be

there, renewable electricity production needs be there, and that's what I understand the main thrust of this gathering to be, but my view is, frankly, there is plenty of room for everything.

You know, I would suggest that we look at in the bigger picture and figure out how the RPS fits into this. Some kind of -- you all have seen the Pacala/Socolow grass and how you might get there. There are lots of different ways we can get there. Four thousand new megawatts of nuclear would get us about 32,000 gWh equivalent of zero carbon electricity. Four million new solar water heaters -- and I picked that number because there are about 4 million new single-family residences in Florida, plus or minus, between 2008 and 2025. At 3,000 kWh a year it gets you 12,000 gWh. Four thousand new megawatts of my client's projects, straight-up biomass gets you right at 32,000 gWh, assuming 8,000 hours a year, 91 percent capacity factor, that's how I got there.

A significant improvement in the building code gets you so much. I think it's reasonable to triple the contribution of waste-to-energy in Florida. We can argue about the CO2 footprint, and our side will point out to you that you also need to consider the methane avoidance footprint of waste-to-energy. That would get you something. It will probably get you 6,000 or 7,000 gWh equivalent if you were to triple the contribution of waste-to-energy, which we think is

completely realistic. Right now we are combusting 20 or 21 percent of all the MSW in Florida. Cities are growing, there's a lot more available. We think that's realistic.

But my point is you start adding these up, you know, you add up everything I just said and you're probably not at 100,000 gWh. We need to be doing just about everything we can, and we need to start soon.

I did want to comment on nuclear. I agree with my colleague, Mr. Bryant, that nuclear should be part of the debate. All I would say is that in parallel with an RPS, or it could all run together, but I think if nuclear appears to be a good option, then the utilities ought to be offering to the renewable sector something like standard offer contracts, or real negotiated contracts against realistic nuclear avoided costs. Hypothetically if coal to carbon sequestration were considered to be a viable option, then they ought to be offering standard offer contracts on that basis.

And I've suggested this to you since at least December of 2005 when we first started talking about one of the more recent iterations of the standard offer contracts, and that is have utilities look at what an optimal generation plan would be if they could build whatever technology by a certain year, and if, for example, it would be cost-effective to add 500 megawatts of coal, or more than that in 2011, they can't build it by then, but have them offer it as a standard offer to

the renewable side. Or if they think that nuclear by 2015, '16, '17, '18, '19, '20, whatever, would be a good addition, have them offer that. We can get on-line a lot faster than either a coal or a nuclear plant. And if we can do so cost-effectively then we can minimized cost, there is no adverse rate impact against what would be an otherwise optimal addition to the utilities' expansion plan.

I said I would be brief. I'm going to stop there. I will have more to say later. Thanks.

MR. FUTRELL: Schef, let me ask you a question. In the context of an RPS, are you concerned or have you given some thought about conservation energy efficiency crowding out opportunities for renewables?

MR. WRIGHT: The answer is yes, Mark, I have thought about it, and my tentative answer is I'm not especially concerned about it, because the task in front of us is, in my view, so great that if we really get serious about -- you know, one way of doing this is just going through the Florida Energy Efficiency Building Code. And the Governor has asked DCA to convene a meeting with the Building Commission to increase the energy efficiency of the building code by 15 percent. Well, in rough terms, you know, if you are using, say, 14,000 kWh per single-family residence per year, which is a pretty good number, if you are using that and you knock 15 percent off of that, what is that, that is 2,100 kWh per year per residence

times 4 million. That gets you about 8,000 gWh in the year 2025. So that is that much of the thing.

So my answer is I am not that concerned about crowding out. And honestly, you know, I think we ought to say that if you can conserve per a penny a kilowatt hour, then crowding out is what should happen. If you can generate biomass-fired electricity for eight cents, say, and you get to a point where you have gotten 10,000 gWh worth of conservation from envelope efficiencies, appliance efficiency standards, or whatever, and you are to the point where the incremental cost of that is 10 percent, well, then you ought to be developing renewables.

But at this point I'm not that concerned about it, because the task ahead of us is -- we can argue about the numbers, or discuss the numbers, we probably don't even need to argue about them, but the numbers are so big. I genuinely believe -- and you have heard me say this, Mark -- I genuinely believe this is doable, but it's going to take a significant meaningful effort, and I'm not so concerned about crowding out at this point.

MS. HARLOW: Mr. Wright, it's my understanding that you are focussing on the two goals of reducing greenhouse gases and increasing Florida's energy security, which also buys you fuel diversity. And you said that at the same time we need to minimize ratepayer cost, but minimize them in such a way that

we are meeting the goals. So that implies to me that you're not looking at some type of rate cap as Mr. Moline and Mr. Bryant were, but yet you are trying to minimize the cost to the ratepayers by using many resources to meet your two goals, is that correct? And then the utilities or whoever is putting this into place would be making some kind of comparison and choosing the least-cost option to meet those goals, is that correct?

MR. WRIGHT: That's the basic concept, yes. And, again, I want to emphasize the idea of getting meaningful standard offers out there based on what might be good generation options to meet the thing. But, yes, that's right, it should be. You all's charge is to regulate in the public interest, minimize costs, have reasonable rates, and achieve public policy goals, and it is clearly articulated in 366.01, it is clearly articulated in FECA.

MS. HARLOW: I understand.

Mr. Moline, I hate to keep coming back to you. Your name keeps coming up, so just smile through it with me. But --

MR. WRIGHT: Can I just say, I mean, various proposal -- the FEMA's proposal is a reasonable first step, but I would say it's not a be-all/end-all, and we need to keep our eyes on the big goal.

MS. HARLOW: I understand.

MR. WRIGHT: The big goal is whatever those are. And

at this point the Governor has set certain goals for us, and we can have that debate, but the Governor has set some greenhouse gas goals and we also -- I think would all agree that Florida energy self sufficiency is a good thing. And if we can get there at reasonable costs, I think everyone in the room would probably say let's do it.

MS. HARLOW: Well, you said that the approach with the rate cap included was a reasonable first approach, and we had heard about --

MR. WRIGHT: First step, yes.

MS. HARLOW: First step. We had heard about the flexibility of that approach by reevaluating it every three to five years. And what I heard was being reevaluated was the resources that could be used, and if there was any kind of tiered approach, look at things like that. But how would you feel about a re-analysis of that rate cap or any type of rate limit there was periodically, as well, to see if that was an appropriate amount of money to meet the goals or not. If it was a first step, how would we know if that amount of money could get us where we wanted to go?

MR. WRIGHT: Well, obviously, I think -- and technology is going to evolve, and obviously, I think, we are going to have to reevaluate this periodically. For those of us who remember this, it kind of harkens back to the APH idea. But, you know, I would say as a reasonable first approach, if

the utilities are willing to do that, that's fine. But in addition they need to be doing more than that. The building code needs to be looked at and we need to be looking at standard offer contracts based on other options that would likely be cost-effective. I mean, we know the utilities have wanted to build coal. We know both of the big utilities are talking about building nuclear in the 2015 to '19 range, and we need be looking at that now.

MR. TRAPP: I'm glad you clarified that for Judy, because I thought I heard something different with respect to the rate cap issue and the effect on rates and everything. I thought I heard you say that we should meet the goals at any cost, but at the lowest cost, and I wanted to clarify that point with you. Are you suggesting that we meet the goals at any cost as long as that's the lowest cost?

MR. WRIGHT: Bob, I think the answer is essentially -- the answer is almost yes, depending on -- subject to reevaluation down the road. I think the most important goals are addressing the greenhouse gas issue and promoting Florida's energy self-sufficiency. Now, let's just use the Governor's goal, what Bob Graniere called the Kyoto analog. If it turns out that that's going to double rates, it's going to cost $4 trillion to meet that goal, there will be a reevaluation of that probably sooner rather than later. I will tell you straight up I don't believe that the impact is

going to be anything like that.

MR. TRAPP: Before or after the money is spent?

MR. WRIGHT: Before, Bob.

MR. TRAPP: Okay.

MR. WRIGHT: No, we're not going to reevaluate it in 2025. We're going reevaluate it as we go along. Now, there is a long history -- sulfur dioxide comes immediately to mind, sulfur dioxide emissions regulation -- there is a long history of meeting environmental regulation regimes costing a lot less than they were represented by naysayers at the outset. You know, I know what my clients' cost are. I have a pretty good handle on what the costs of coal are and what realistic costs of nuclear are, and if those are viable options for future generation, I would say, as I sit here today, I'm highly confident that we can get one heck of a lot of renewable source electricity, or equivalent electric services into the system for less than what coal carbon sequestration or coal carbon cost allowances would be, and, I think, a lot less than what nuclear would be. That doesn't mean nuclear is off the table. Nuclear has its own set of benefits that need to be considered in the debate as we go forward. But I do believe the two important goals are address the greenhouse gas issue and promote energy self-sufficiency.

Now, at any cost? No. But I think those two goals not as no pending further evaluation, but I think those two

goals are superior to minimize cost. I think minimize cost is minimize costs to meet those goals.

MR. TRAPP: Let's say, okay, to meet these goals we are going to double the rates, we're going to or triple the rates. Your first statement was this incredible growth in energy that we are experiencing. 100 million-megawatt hours to 2020. If we triple the rates, wouldn't that money be best spent eliminating that growth so that we don't need to have supply to supply it?

MR. WRIGHT: Quite probably.

MR. TRAPP: Thank you.

MR. WRIGHT: I mean, it depends on what the -- eliminate the growth by enhancing envelope efficiency, eliminate the growth by installing solar water heaters, eliminate the growth by -- we're going to need to do it with the most cost-effective portfolio of -- well, we're going to need do it, and the idea would be to do it with the most cost-effective portfolio, but, of course, energy conservation has to be a part of the mix.

MR. McWHIRTER: Mr. Chairman, my name is John McWhirter, and I'm here as a consumer representative, which we haven't heard much from consumer representatives so far. I represent industrial consumers, and I strongly recommend that in Section B when you give your list of things that should be included in the renewable portfolio standard you encourage

renewables, I would suggest you add encourage conservation and innovation.

I agree with the utilities that conservation is probably the quickest and best method we have to get to resolving the immediate needs for curtailing greenhouse gases and the other matters of concern, including fuel cost and energy security, as Mr. Scheffel Wright says.

With respect to your consultant's concern that putting conservation in the mix will crowd out other potential renewable standards, I would join the group that says that is not the case. I watch a lot of cowboy movies when I don't sleep at night, and I have always noticed that a team of horses generally do better than just one horse pulling the cart. And if we begin to focus on just renewable energy to the exclusion of something we have had 27 years of experience in, I think you would be missing the mark.

Now, having said that, I think it's time that you reevaluate the conservation goals, how they work. And the conservation goals, the way they work today are demand-side management programs are designed by the people that supply energy. The suppliers are coming up with the programs for the demand-side. And I think by encouraging conservation and innovation and you go to people that have the ability, especially the industrial consumers, that have the ability to incorporate efficiency if given the proper -- maybe not even

monetary incentive, but just be given the proper encouragement to do things that they are somewhat inhibited on doing today, you may find very significant improvement in the energy consumption.

Now, energy consumption is a problem for the utilities, and it is potentially a problem for you. Because as you have seen in the water field, when people conserve, since utility operations are capital intensive, it tends to raise the cost if you are making less. But it doesn't raise the costs if you avoid building new units, and that is the way your conservation programs have been designed to date.

When we first developed conservation programs 25 years ago, the two tests that you used for conservation programs were the total resource test and the rate impact test. And at that time I came before you and resisted, on behalf of my clients, the total resource test, because I thought it brought into the mix intangible items, such at environmental externalities and we would be going off in tangents and trying to quantify the cost of something.

But with respect to the rate impact test, we strongly endorsed that, but I think the rate impact test is a misnomer. When you conserve energy and the utilities sell less, that does not necessarily mean that rates are going to go up just because a utility loses some revenue. Rates don't go up unless you have a base rate case in which rates are adjusted. And rates

don't go up if a utility is already earning within its authorized limited return. So people can conserve energy and the utilities can still make money. And not only will the greenhouse gas issue be partially resolved, global warming will be partially resolved, and costs will be minimized because new utility plants will be avoided.

Another reason why I think that conservation is not in opposition to a renewable portfolio, is if you will look back at ten year site plans that were filed about four years ago, in each of those ten year site plans the utilities listed the generating plants that were going to be retired, kind of like the telephone companies used to have dial telephones. In the past few years in the ten year site plans you don't see any retirement dates on generating plants, and that's because of the environmental impact.

They are going to keep retooling those old generating plants. And in the process of retooling those plants, I think there is great opportunity for evaluating renewable fuels, and I think there is great opportunity for a diverse type of construction of generating plants, maybe through independent power producers and others that will bring competition back into play.

I know under Florida law at the present time independent power producers can't apply, and when they do, when they use their exemption they are restricted to 75 megawatts,

and consequently can't build the most efficient plants. But I think if industry is given the opportunity to come up with innovative ideas, I think you bring new players into the mix and you bring people who have a genuine interest in conserving energy because they conserve costs.

Now, Mr. Moline pointed out in his analysis if you just use a one percent rationale, you might raise the bills of people that use a lot of energy by one percent and that's a lot of money. But that brings to light another aspect, and that is the construction of generating facilities is demand-related. The demand on that plant, and that is a capital cost. And that is why conservation tends to drive costs up because you have facilities that aren't being fully utilized.

And when you put the one percent charge on a kilowatt hour basis and other charges on a kilowatt hour basis, that requires people who use energy efficiently around the clock to pay a greater percentage of capital cost for the facilities that they don't use. So that has always been a concern to us, but I believe if you will implement conservation programs and you recognize demand-related cost and distinguish them from kilowatt hour cost in your analysis of how you pay for renewable programs and so forth, you will not only get the support of your larger customers, but you will get the enthusiastic support from them. And I think you will achieve the avoided cost concept as opposed to the minimized cost

language that you use in Subsection B. Thank you for your time.

MR. FUTRELL: Bob has got a question.

MR. GRANIERE: Bob Graniere.

My question is can anybody tell me how a discussion of the renewable portfolio standard has sort of morphed into a discussion of why we should do more energy conservation and energy efficiency when the state has been doing this for 25 years?

MR. McWHIRTER: I can give you an opinion.

My opinion is that that's because it is a known commodity and renewable sources are an unknown commodity. And what we've heard in the trade show last week were people that were selling things, and most of the things they were selling cost more than we were getting today. And so from a customer's aspect when you are dealing with something that cost much more, and a new one percent energy efficiency surcharge, or whatever Mr. Moline wants to call it, I think it takes away from the concept that we can really do something with energy conservation. And that is the most -- it is something we know how to deal with, it is something we can deal with quickly. This light bulb thing that the utilities advertise, why would you ignore that in favor of burning cow dung? It doesn't make a lot of sense to me. So, from the consumer's aspect I would suggest to you don't forget about conservation and don't

emphasize renewables to the degree that conservation falls by the wayside.

MR. GRANIERE: Well, I don't think anybody -- let me ask this question. And since there is this notion of balancing conservation, energy efficiency, and renewables, that's sort of the evolving here it seems, would it be fair to suggest that perhaps we cap the amount of energy conservation and energy efficiency that is included in the standard rather than let that be a free variable?

MR. McWHIRTER: George Santayana, often I tell people, he said, as you recall, "Those who ignore history are doomed to repeat it." And since I'm old and nearing the end of my prime years, I recall back how much electricity we used when I was a boy. And we opened the windows, and we did things architecturally in Florida that had unique houses that didn't use electricity. But what happened in the last 20 years, and I think -- or last 40 years, the utility industry followed the design of the tobacco industry, and they got us hooked on electricity.

And now that we're hooked on electricity, it is very hard to disengage. When you talk about changing the building requirements, what we have done is we've sealed our buildings, so you use more electricity. And maybe we need to do things that use less electricity. And so I think when you ignore conservation to the idea of selling cow dung, or weeds, or

whatever it is that you sell, you are losing something that is just a great opportunity for you.

Florida Progress, on my TV each day I see this new thermostat. And I bought three of those thermostats because you can lock it in and the children and the wife can't go in and change it to down to 69 degrees and so forth. Of course, that creates a lot of internal confusion in our house, because they like it at 68 degrees in the summer and 85 degrees in the winter. But I'm the one that pays the bills, and so I'm trying to slowly integrate them into that process.

And if we can engage the entire society, tell consumers that the issue lies with them and not with the electricity company that sells the power, and not with the new renewable innovative people that are coming up with new products to sell at more cost, but rather with the consumer and involve us consumers in the process, I think you will be very happy. I know that the industrial consumers would do a lot more if there were no barriers against them supplying energy. Does that answer your question?

MR. GRANIERE: So I take that to mean that you would not oppose a cap on energy efficiency in the renewable portfolio standard because we are not ignoring energy efficiency in the renewable portfolio. Am I right?

MR. McWHIRTER: I'm sorry, I'm hard of hearing. Were you asking a question or making a statement?

MR. GRANIERE: No, I am asking the question.

MR. McWHIRTER: What is it?

MR. GRANIERE: Is it the case, given your explanation, that you would support a cap on energy efficiency and conservation in the renewable portfolio standard? For example, four percentage points of the standard would be energy efficiency and conservation?

MR. McWHIRTER: Absolutely not. I think there is so much potential in energy conservation and people rethinking their lives and they way they use electricity, that by capping it you might cut off a lot of innovation.

MR. MOLINE: And the opposite of doing a cap would be to provide an incentive, and I really don't mean to sound like a broken record, but we would recommend the multiplier approach rather than a quota approach. I mean, a multiplier per technology approach.

MR. FUTRELL: We need to take a break right now, and we will pick back up with anybody that would like to respond to Bob's question, but we need to give everyone a break for about ten minutes. So we will reconvene at 11:20.

(Recess.)

MR. FUTRELL: We would like to mention again, there are sign-up sheets in the back. If everyone would please sign that, we will had a record of everyone's attendance. I also want to point out we have added a couple of microphones here on

the side so folks can come up to the table and speak. We have also added a mike here on this side of the room where anyone could come up and have an opportunity to speak.

And I believe we left off with we were giving Mr. Zambo an opportunity to speak. He has been patiently waiting.

MR. ZAMBO: Good morning. My name is Rich Zambo. I am appearing on behalf of the City of Tampa, Palm Beach County Solid Waste Authority, and the Industrial Cogenerators.

I'm not sure where to start. I guess, let me go in chronological order. First, we're talking about what should be included in this definition of renewable energy, and I guess I had never, by any stretch of the imagination, would have considered nuclear to be included in that. And I look back at the Power Plant Siting Act, which was adopted in 1973, and I believe that whenever the utilities build a plant, or want to build a plant and come to this Commission for a need determination that they have to prove that their proposal is the most cost-effective alternative available.

So, I would suggest that if a nuclear plant should have been built or should be being built now, that that is an obligation of the utility to build regardless of whether it's considered renewable, or clean, or whatever it is. I think it's within the management prerogative of the utilities to choose their plants, but it is also incumbent upon them under the Power Plant Siting Act to build the most cost-effective

plants available.

Also, with respect to conservation, there again, I'm not sure why that's being considered in the context of renewable energy. It's not energy. It's negative energy. You know, renewable is to supply -- renewable energy is intended to supply an actual need, not to remove a need, and it is intended to meet all these objectives that you have got listed here under Section B. And I would just, again, point out that in 1990, the legislature passed the Florida Energy Efficiency and Conservation Act. And, again, the utilities are under an obligation to promote, encourage, adopt, develop conservation programs that are cost-effective. So, if they are suggesting that we need to include conservation, if there is low hanging fruit out there that they think should be considered renewable, I think they are indicting their conservation programs, that they have not done what the law has required them to do at this point.

So my point of view is renewables should not include nuclear, should not include conservation. And if you look at the statutes, I think the controlling statute is 366.62, which gives the Commission the authority to establish goals for renewable energy and to revisit those goals at least every five years. And it refers to a definition in Chapter 377, I think it is 377.803. So you have got a pretty good background or basis on which to proceed.

Now, moving to another point, the legal posture of where we are today. There is some tension between the -- perhaps some tension between the Governor's executive order and the legislation. The Governor has suggested that you convene, or the Commission convene proceedings to adopt renewable portfolio standards, but the Commission is still constrained by the statute. So I believe you need to look at your statutory authority, which in this case I believe is 366.92, which gives you the authority to establish goals and it defines what constitutes renewable energy.

I mean, you are not acting as the Legislature here. You are implementing something that the Legislature has adopted, and I think the Governor is just kind of pushing you to do it sooner rather than later.

Another issue I wanted to mention was some of the folks here have talked about whether this 20 percent renewable is a reasonable number, whether it's too big or too small. I think I heard that if you include nuclear then it's a fine number. The utility industry would support that. But if you don't include nuclear then the number is too big and it needs to be something smaller.

I would say that until you establish the rules, and the regulations, and the framework in the renewable portfolio standard, I don't think anybody has any idea how much renewable energy may come out of this. Although I haven't been doing

this as long as Mr. McWhirter, I do remember back when PURPA was passed in the late 1970s. And that was met with -- that was during the Carter administration. A lot of folks thought that was just totally foolish, that we would never get any nonutility generators to participate in the electric utility industry.

I haven't seen any recent numbers, but from what I recall we had hundreds of thousands of megawatts of renew -- not renewable, but nonutility generation that was developed as a result of PURPA. And I kind of think that, you know, listening to Mr. Wright and some of the other folks who are here today, I think once you get this framework set up and get those doors open and welcome renewable developers into the state, I think it's premature to say 20 percent is too much. I think it is probably a good number. And we have got until 2020 to do it, so it's not like it has to materialize immediately.

And then, I guess, getting to my hot button issue is the words cost cap and subsidization. You know, we're making some leaps here. We're making some assumptions that I think are a negative connotation to the renewable energy industry. There is an assumption that the industry needs to be subsidized somehow. And I think what's really happening here is that the utility industry is being subsidized, and I've got some examples for you.

You know, we talked about avoided cost. Avoided cost

is the limit to what can be paid for renewable energy. Well, just off the top of my head, I scribbled down three things while I was listening this morning that are not considered an avoided cost. One was there were some combined cycle power plants that the Commission approved a need determination for, I think it was in 2000, and they came on-line in 2002/2003. And since their operation, their fuel costs have been almost half a billion dollars more than were projected.

That wasn't factored into avoided cost. That is a risk. That is a risk that cost the ratepayers half a billion dollars so far. And no telling how much it's going to cost them over the life of those plants. So, I'm suggesting you not put blinders on when you are looking at avoided cost. Avoided cost is like -- I think the Commission, to some extent, treats it as a snapshot. It is like a snapshot in time when the utility applies for a need determination or when it submits its ten-year site plans, but it's really a moving target and it changes over time.

Another example is Florida Power and Light recently applied to recover the costs that they invested in pursuing a coal plant that the Commission ultimately denied need for. Well, that cost per kilowatt hour is tremendous. They got no -- the customers got no energy, they get nothing out of that. It's going to cost them -- I'm not sure what the number is, 30 or $40 million. Do you know, John?

Another case, a lot of publicity, I have got some clients and friends in the Lakeland area. The City of Lakeland signed a long-term power supply contract with the Florida Municipal Power Agency that at the time looked cost-effective, and now they are spending an extra 10 or $20 million a year. They have been in litigation; they have been in mediation. I mean, these are just examples of the kind of things that go on out there that are not reflected in the avoided cost.

We have other proceedings going on. As you know, the standard offer contracts have been filed and there have been some challenges and protests against those. And there's going to be some other issues raised as to whether or not the avoided costs are properly being calculated in those contracts, in those standard offer contracts.

And, let's see, I might have one other point, if I can find it in my scribbling. Oh, yes. With no disrespect to Mr. Moline, he has talked about the low-hanging fruit that his clients may have in conservation, but as I recall most or many of his clients are not covered by FEECA, so they haven't had to be pursuing conservation. So it may be misleading to use that as a general concept that utilities haven't plucked off that low-hanging fruit, because I think probably 95 or 96 percent of the kilowatt hours are covered by FEECA, and so the majority of conservation programs should have been identified and put in place by now. And I think that exhausts my notes. I

appreciate it.

MS. HARLOW: Mr. Zambo, can I ask you a quick question?

MR. ZAMBO: Absolutely.

MS. HARLOW: This is Judy Harlow with staff.

You said it was premature to determine whether 20 percent was not the appropriate goal, because we don't have all the structure of whatever portfolio standard in place yet, so we can't tell what resources would be drawn out by that structure. And that point makes sense to me, but how would you feel about some type of reanalysis over time to look at the goals again over time that we have discussed earlier?

My question is how do we -- you said it's inappropriate at this time to say 20 percent is the wrong number. At what point do we know what the right number is as we move forward?

MR. ZAMBO: Well, let me try to answer that the best I can. First of all, the Legislature and Governor is relying on this Commission's expertise, and they have outlined some goals and some objectives that they would like you to meet. And I think it's incumbent on the Commission to independently, you know, just say if I had my druthers what would my percentage of renewable be. You know, don't worry about what it costs, or don't worry about how much may be out there, just say if I was designing an ideal fuel mix, how much would I want

to be renewable.

In the rulemaking proceedings we had last November, we had suggested 25 percent. We said 25 percent renewable, 25 coal, 25 nuclear, 25 percent oil and gas. It just sounds right. But I think that's up to the Commission to decide, and 20 percent sounds like a reasonable number. But I also think that from the utilities' perspective, you don't want to set a number that they can't meet and you want to phase this in. If we are looking at 20 percent by 2020, maybe you say 5 percent in five years, so you give them an opportunity to feel out the market and see what's happening and come back every two or three years and revisit that.

The statute actually says that once you set those goals you should reconsider them, or review them at least every five years. And I think that's what you have to do on the front end. You have got to see if it's working. If you're not paying enough, if there is nobody coming in, maybe you need reconsider the goal, or you need to reconsider the pricing, or you need to reconsider the contract terms and conditions, or something else in the process. But I think the goal -- you should set that goal as to what you think would be the ideal in a perfect world if you had your ability to do that. How much renewable would you like in your portfolio.

MR. FUTRELL: Who would like to speak next?

Mr. Jacobs.

MR. JACOBS: Good morning. How are you? My name is Leon Jacobs. I'm here today on behalf of the Southern Alliance for Clean Energy. And, first of all, I would like to applaud you. You have set out a very excellent line-up of inquiries, and I hope you will follow through on that because I think it does bring you to a really good analysis of the implementation process.

I would like to specifically go to B, which is, I think, kind of where we started. And even before you look at goals and objectives, I think you step back and look at what the fundamental purpose is, as I understand of it, of adopting an RPS. And as I understand it, it is a public policy decision that you no longer want to subsidize the growth and implementation of renewables, but you want to implement a market driven process by which renewables will be implemented in the fuel mix of the state.

And so I would suggest to you that one of the essential elements of your analysis has to be to what extent there is a prospective and fungible market for renewables in Florida, and what the health of that market would be. How would it operate over the long-term. If you conclude that there is a realtime active market for renewables in Florida, then your role is pretty clear. You are simply there to oversee that market and make sure it operates within acceptable legal guidelines.

I think we all know and I think everybody would agree that the market in Florida for renewables is a challenging space, and so there is going to be much more work for you to do. But I think the perspective is important. To the extent that there is a business case for doing renewables in Florida that ought to be the crystallizing salient force in what happens here. If there ought to be transactions with biomass and there ought to be transactions with all the other technologies, then those transactions as a matter of least-cost analysis, as Mr. Wright indicated, then those transactions ought to be on the table, and you ought to count up the energy that comes with those transactions and it goes towards 20 percent.

Mr. Trapp was trying to get out a very important question earlier. Okay, if I am sitting there and I have dollars that I'm looking at, do I want to allocate dollars to those energy resources. And I would say you need to do a real close assessment of that point. It's a very important analysis. Because if there is a business case and those transactions should be occurring, do you want to be allocating precious resources to incenting those kinds of transactions.

However, if there are technologies out there that are nascent, that are clear benefactors to the overall economy of Florida, that clearly meet the governmental and public policy objectives here, and those technologies are finding themselves

struggling to make their way into the marketplace and to gain a strong footing, then your role and your analysis is going to become a bit more complex. And some of the design criteria and design elements of doing an RPS are going to become absolutely critical. Again, the idea of a tier and some other issues are going to become real critical in how you do this.

And, of course, we know that an overriding public policy concern is how to remove greenhouse gases. So if you have a technology that is going to win out in the marketplace, it's going to generate all kinds of transactions and volume in a renewables marketplace, but that technology is going to compromise the reduction of greenhouse gases, then you have more work to do. Because it sounds like to me you have got to figure out how to bring more technologies to the plate who are going to counteract that one.

Because while it is a renewable as you have defined it, or you will define it, it compromises this other goal. And so you have to figure out then how to balance that market so that you can accommodate this overriding public policy goal in lieu of actually just building a generic renewable resource.

In my mind, those are some of the critical complex goals and objectives that are going to drive a lot of this process. Yes, the dollars are key, but it strikes me that -- I agree with Mr. Zambo to some extent. If you discover that when we look at the fact that there are going to be additional costs

to reduce carbon, when we look at the price to build fossil fuel plants is more volatile than we have ever seen, when we look at the idea that while, yes, nuclear plants are a favorable option in how they reduce emissions, they have other issues that are important public policy issues.

When you look at the risks that are associated with those critical factors, and the idea that a renewable, if it can comply with the overall public policy objectives, can reduce those risks, are we going to include factors in our RPS that address that? Are we going to say that because these technologies can reduce these risks, then they enhance the avoided cost debate? That's an important point here. We allude that point because we stay on the technical avoided cost elements. But these external costs, are we going to be address those in the avoided cost argument? I think that needs to be addressed in the renewable debate.

And then, of course, efficiencies, I think they play out in that whole issue. But from my standpoint, I want absolutely you to do as much energy efficiency, there to be as much energy efficiency in the energy mix of this state as possible. Let me say that up front. But if I accept the analysis that some would find fault with, but the analysis of the alliance for the ACEEE analysis which says that there is a gap between what we are doing now and what is already in play, am I going to allocate the resources of an RPS to fill that gap

or do I want the market forces to fill that gap?

I would argue to you that you want the market forces to fill that gap, which interestingly enough, and I find myself in an odd position to say this, may argue for a cap on energy efficiency in your analysis. I don't know. I can't say that it would or not, but I want to address that argument. When you come out with your final report, I want to understand how then are we going to accept the idea that there should be more energy efficiency already in play, and to what extent am I wanting to allow the marketplace to camp out on that low-hanging fruit.

So, those -- and I am not saying, I'm not arguing actually how you would resolve these goals and objectives, but I am arguing to you that it is vitally important that you be very clear in enunciating those goals and objectives and enunciating what your ultimate resolution of those are because that will be the signal to the marketplace. And if you don't do that, the marketplace will not form and you will fail your fundamental purpose in doing an RPS, to stop subsidizing renewables and make it a market-driven process.

MR. TRAPP: Commissioner Jacobs, you touched on a point that has troubled me, and I'll ask it of you but give it to the whole forum, too. If we are designing a system that, you know, does rely on market forces, as they are defined today basically we have structures out there for conservation and

cogeneration and other systems that are what I call rate neutral systems, but looking at renewables, particularly emerging technologies that may cost more than what would be sustained by however you define it, a rate neutral system, if we assign some externality dollars to try to attract those renewables, isn't that a form of research and development? I mean, can't you look at this to some extent as putting money into research and development to make those technologies come to the table, develop economies of scale, mature, get into the marketplace?

I mean, we have a base structure marketplace here. Part of the goal I see here is to incent us to get to the next generation if you would, if you are a Star Trek follower. What do you think about that aspect of this?

MR. JACOBS: I think there is an argument that you are subsidizing R&D, but I think I would take a broader approach. And if I am not mistaken, California looked at that. And I think what they did is they did the least-cost analysis, and where a technology -- where its costs exceeded that, but it was viewed as a technology as you -- then they begin to chip in at that threshold, so that you make it have to earn up to what the prevailing market is for least-cost, best-available technology, and then you make a policy decision as to whether or not it should get some assistance beyond that.

I don't know that I would advocate that. I haven't

looked into the details as deeply to be able to say that. I think it's a fair approach. If I'm wanting to make sure that I'm developing a viable marketplace, I think that sounds like a fair approach, and I can live with that idea as opposed to just saying I'm subsidizing R&D.

MR. KATOFSKY: This is Ryan Katofsky with Navigant Consulting. I just wanted to make a quick comment on the R&D question. I think there is a general belief that RPS is there to support technologies that have cost of electricity that are higher, say, than the market rate. With that said, most RPS programs also have caps in place to make sure that above-market cost doesn't become overly burdensome to ratepayers.

The technologies, though, that would work in an RPS are generally not ones that I would consider to be in a true research and development phase, so they are essentially commercially available technology but that may have slightly higher costs. Not in all cases, actually they may have lower costs than conventional technologies. States have done other things to address research and development for renewable energy technologies. California, in particular, has a whole system benefits charge fund geared specifically towards what they call public interest energy research. It is separate from the RPS.

So I would argue that technologies that are truly at a research stage would not necessarily fit all that well in the context of an RPS. And if it is an RPS that is driven by a

market-based system where you're still looking for the most cost-effective renewables, then those technologies just by their nature probably would not be competitive in that market-based structure.

MR. FUTRELL: Mr. Jones.

MR. JONES: For the record, my name is Dell Jones with Regenesis Power. I just have a couple of comments that I would like to make. And just by way of background, I have been in the renewable energy space for 29 years now. I have worked both on the utility side as well as renewable energy development side, conservation, efficiency, policy. In my previous position I was with a company that was deeply involved in REC markets, policy, and origination, so I will have some other comments later on. If we get through the agenda down to the REC part, I will have some comments there.

One of the things I just wanted to -- this is probably more me as a Floridian and growing up here and having seen the development of RPS standards in other states and been involved with both projects and policy in other states, is that it seems like the overall goal is really Florida's energy self-sufficiency, not Florida's electric self-sufficiency. So I would like to just throw out the comment that, you know, maybe we should broaden the scope of the discussion to include other fuel sources, such as gas and oil. As a for instance, in

New Jersey system benefit money being applied for renewable technologies comes out of the rate base for both gas and electric energy. So when we look at the total amount of energy used in the state of Florida, it is not exclusively electric. There is a lot of industrial gas, and there is also certainly a lot of opportunity for reducing the consumption of gas through conservation, efficiency, and renewable energy.

And, you know, certainly -- I'm not sure if there is any gas utilities in the room, but it seems perhaps it may have dodged the proverbial bullet in the discussion here, but I would think that, again, with the proliferation of gas pipelines growing into Florida, and FPL's comments about the desire to have fuel diversity, new gas lines being brought into the state and expanded, that industrial use of gas certainly is going to become a greater portion of the energy consumption within Florida. And I truly believe that this discussion of the RPS should apply to other nonrenewable fuel sources besides just electricity.

And just one of the things I also want to talk about is, I guess, the notion that electricity on a retail scale is the eminent domain of the electric utilities. Myself, I'm developing with my company a 3.8 megawatt project in California of photovoltaics, because that can be sold to an end user at rates that are advantageous to that particular entity. And 50-megawatt thermal plants in California, again, because there

is an advantage for those end users to take advantage of the renewable energy because we can compete against the cow border price of gas to deliver a certain amount of steam as opposed to running the steam -- deriving their steam from gas boilers. So, again, it is just that discussion that I think we should expand this out to other fuel sources.

And just for discussion, I would hope that perhaps the Commission might consider that a utility would be granted permission to use renewable energy generated at an industrial site to offset gas toward their renewable portfolio standards. Now, they may be an electric generating utility, but there is no reason that perhaps some part of their company in terms of project development or the expertise within the utility, that they have the capability of providing energy to an end user cost-effectively. And if they are granted the ability to use that energy toward their RPS goals, they might tend to develop and sell that energy to that industrial customer even though it offset gas and not electricity.

So, again, I would be in favor of giving them credit to supply energy to consumers on a distributed generation basis that weren't offsetting electricity. And just as far as my company is concerned, I would love to come to Florida and not jump on a plane on Monday and do my work in New Jersey and California. I would rather do more work here in Florida, but as it is right now I get on the plane on Monday, travel out of

Florida and ply my trade.

Primarily one of the reasons, again, is that sale of energy on a power purchase agreement basis for electrons is not something that I can do here in Florida. I can't go to a Big Box store, put in a photovoltaic system, sell them the energy at retail prices, because it's a regulated product. So I think maybe some relief in that sense on a distributed generation and all the energy was consumed inside the -- behind the meter, if that was able to be done, I think it would advance some portions of the photovoltaic industry here in Florida.

And that's pretty much all my comments, I have. I know we have got a busy agenda, and I just wanted to thank the Commission or the staff for the time.

MS. HARLOW: Dell, I have a quick question. This is Judy Harlow with staff. I know you have worked extensively with renewable energy credits, and I was going back to your point about the industrial customer that replaced the use of natural gas with some type of renewable fuel. How do you think that we could use renewable energy credits in the design of an RPS to include that industrial customer switch from natural gas to renewable fuel?

MR. JONES: Well, if the measure toward compliance of an RPS goal is going to be a megawatt hour, the conversion from a therm to a horsepower to a kilojoule to a Btu can all be done. I mean, it's just mathematical calculation. You know,

3,412 Btus to a kilowatt hour. So my thought would be is that energy delivered for a useful purpose within an industrial application could be quantified. It is very easily done with what in Europe they call energy meters. Here, generically, we call them Btu meters. So, basically you deliver a certain amount of energy to that end use or within that distribution system within that industrial process. You measure it, you quantify it, and then that should count in megawatt hours. Be converted to megawatt hours and count toward the RPS goal. And, again, it really should not be, in my opinion, a renewable electricity standard, it should be a renewable energy standard, portfolio standard.

MR. FUTRELL: Jon.

MR. MOYLE: Thank you. Again, for the record Jon Moyle with the Moyle Flanigan law firm here in Tallahassee. I'm appearing today on behalf of Wheelabrator Technologies, which is in the waste-to-energy business. And I first want to commend the Commission and staff for moving forward aggressively on this RPS. There was a workshop, I think a little less than a month ago where a lot of ideas were tossed out, and I was glad to see that that was being followed up promptly. One note of disappointment that I would just express is that I believe at the time when we had that previous workshop, there was a map that was put up showing states that had adopted RPSs, and there was a big blank in the southeastern

United States. And it looked like a wonderful opportunity for Florida to get out there and be the first one in the southeast to adopt an RPS and make our mark in the southeast. I'm afraid we may be second now, because I think I saw in the newspaper last week that North Carolina had moved forward and adopted an RPS. But I think it is the right direction and you all are to be commended for moving quickly and hopefully into a rulemaking where we can get something in place promptly.

There has been a lot of discussion on a lot of different items in this agenda, and I was going to just take the opportunity to go through and hit points that on behalf of Wheelabrator we wanted to make particular comments on. Before I do that, just let me make a general point, if I could. The Public Service Commission, as I understand it, is a creature of the Legislature. It is housed under the legislative branch of government. It's unique and different from a lot of executive agencies of the Governor, like DEP and whatnot where they are housed under the Governor.

And Casey asked the question earlier, I think it was how does the Governor's Executive Order relate to the statute. And putting on a lawyer's hat, purely from a legal analysis in my judgment, I would argue that the Legislature provides the direction to the Public Service Commission and passes the law. The Governor has a chance to review the law and veto it if he is not happy with it, as he did this summer on an energy bill,

but there is already a lot of legislation that has already been passed that is on the books that relates to renewable energy, and I would urge you that that would be a primary focal point as you move forward with this renewable energy debate, and specifically the renewable portfolio standard debate.

Mr. Bryant asked earlier about the definition of an RPS, a renewable portfolio standard. And I would suggest that the RPS renewable, we are talking about renewable energy, and there is already a statutory definition for renewable energy, so I would suggest that you don't really need to go a lot further beyond taking a look at the statute on that point to determine what is considered renewable energy.

To just go briefly over some of the agenda questions that were asked, and I think it was a very well thought out agenda, it asked a lot of very good detailed questions, and if it is okay, I was just going to kind of run through it very briefly and make some points. But on your first question, what are the underlying goals and objectives of a renewable portfolio standard, I think you took a number of goals, some from the statute, maybe others from the executive order, but I would suggest that one that you might want to take another look it, it does appear in the Statute 366.92, a section entitled Florida renewable energy policy, and it says that one of the objectives is to promote the economic viability of Florida's existing renewable energy facilities.

And following that it talks about diversity of the types of fuels, but I would urge you to recognize that as well as a goal as the Legislature has recognized it as a goal. And the point to be made there is that we do have some renewable energy already in place. And as we move forward to promote more, which is the goal, we should not neglect how we can protect and preserve the existing renewable resources in the state. So I think that should be part of the consideration as you move forward with rulemaking.

The questions briefly. You had asked does the statute require all utilities to meet the goal, and while the statute may not be express on that point, you all are provided latitude and interpretation if there is not an express provision. Like renewable energy is defined, it is express. You know, last year they wanted to put nuclear in it and that was killed in a committee, or came out in a committee, so I'm not sure that debate needs to continue on a whole lot. But in this situation, in my review, I couldn't find an express statutory provision that said this applies to all utilities, but in looking at the statute it talks about Florida's renewable energy resources, and it seems to be a broad and pervasive type of definition. I didn't see a lot of exemptions where it said this only applies to A, B, and C, or things like that. So, I would suggest that it probably does apply to all utilities, and if there is an argument that it doesn't, well,

it should in my client's opinion.

Should the goal be statewide or utility specific. We believe it should be a statewide goal. A single goal that each utility should meet a certain percentage of retail sales from renewable energy. And the reason is this is simple straightforward and consistent with what most other states have done.

Should a statewide goal be allocated across utilities. Again, percentages of retail sales should be what should be looked at on that point.

You asked the question about existing renewable resources and should they be included in the standard. And, again, we think that the answer to that is yes, consistent with the statutory language about protecting existing resources, you need to include existing resources in a renewable standard as you move forward.

You had asked the question what renewable resources should be eligible to meet the goal. This is in Section D. We would suggest that the law is clear on this point and you follow the statute.

Jumping forward to Section F. What is the basis for setting the standard. Again, I think that is the retail sales, and you avoid a lot of subjective judgments and other factors that could be creeping into play if you don't follow that standard.

Should the goal be phased in; you had asked that question. And I think the answer to that should be probably yes, for new resources, because it is going to take some time for them to be developed. For existing resources, you should get an accurate account of what those are, and then set that as a percentage of goal for the existing resources so you make sure that you don't lose ground.

Mr. Jacobs talked about markets and letting markets play, and I think your question about should provisions be established to encourage the use of particular renewable resources, I think an appropriate classification is new resources and existing resources. But if you start breaking it down much beyond that and get a whole host of individual criteria, I think you may be sending the wrong message to the markets where the markets might be able to come in and help you meet your goal. It is almost like a vulcanization of markets, if you start breaking it down into very, very small slices.

Should renewable -- under G, should renewable energy credits be counted toward the goal. And we believe that they should, credits should be available and traded. And if you have surplus credits in one area, that that should be able to be sold or transferred to another area to meet the goal.

You asked a question about who should administer this, and I think the PSC is a logical candidate to administer an RPS. I also am told that there is a private entity that

administers RPSs in some other states, and I would suggest before this decision is made you probably want to gather some information about this private entity and what they might charge and what they might deliver, because there is an outsourcing opportunity there, but it seems that those two are both alternatives that should be explored.

And in the final question you had asked on the agenda was how will voluntary green programs be affected by the use of renewable energy credits, and it seems that the renewable programs that were place before that I understand were largely voluntary, if you move forward aggressively with a renewable portfolio standard, that in large part those will probably be supplanted by the RPS. I'm not sure we want to do anything to discourage it, but I think almost as a matter of course that if you do move forward aggressively with the RPS that those will be supplanted.

So those are the comments. I want to just close with a remark that I heard during the break, and it hales back a little bit to Mr. McWhirter's comments, what he has done at his house in Tampa, which was to install a thermostat that I guess his family couldn't access so he can control how warm or cool the house is since he writes the checks to the utility company every month. But I was talking to somebody from DEP's State Energy Office, and they have been involved in this energy discussion in a variety of different contexts, and they related

that an idea that had surfaced at one of the meetings was that we are talking big picture things, but that a lot of this starts at home. And the idea was to promote climate friendly attire. And the suggestion was made that you could raise the temperature in a building like this three or four or five degrees and save some energy if everybody wasn't dressed up in coats and ties and long-sleeved shirts, particularly in the summer. So I thought that was cute and had some appeal, and I thought I would close with relating that story that I urge you to consider maybe some climate friendly clothing and you can raise the temperature here at the PSC, and I think we would all be okay.

Anyway, thank you for the opportunity to comment today. I appreciate it, and I will be happy to answer any questions you might have.

MR. FUTRELL: Go ahead, Charlie. Oh, Bob's got a question, I'm sorry.

MR. TRAPP: Mr. Moyle, I think I heard in your synopsis there that you may be opposed to tiers and set-asides, is that correct?

MR. MOYLE: I think from my impression in looking at some other states that if you set a goal then you ought to let the market forces be free to meet that goal. And by coming in and putting in, well, this much needs to be met by this particular resource, and this much needs to be met by this

particular resource, you potentially could have a negative impact on the market as a whole to meet the goal.

For example, Mr. Wright was here earlier. He gave a presentation. If he had clients who were doing the switch grass project, but that component of an RPS was taken up and it was not available, that could be a disincentive for them to move forward.

MR. TRAPP: And it goes back to the basic question in B, and I'm not sure if we have gotten much past B in this agenda, but what are our underlying goals and objectives. I think I also heard you say that we should put more weight on the statute, 366.92, than we do on the Governor's Executive Order. In our earlier discussions with that side of the room this morning, we were talking about whether or not greenhouse gas emission reductions should be part of our objectives. What is your position on the inclusion of greenhouse gas reduction as part of our objective?

MR. MOYLE: I think it's a laudable goal, and I think the Governor is right with respect to setting that goal out there. I think that, you know, from a purely legal standpoint, if you read the statute, and it is not appearing in the statute, it seems to me that you can probably get there by doing other things, because I think, you know, promoting renewable energy and making sure existing resources are protected, I think all of those types of things, fuel

diversity, the specific goals that are articulated will get you to a reduction in greenhouse gas.

But from purely a legal analysis, you know, the Legislature, I think, is the one that largely is putting forward the policy on this. I mean, they could have, if they desired, said, you know what, we are going to let the PSC determine what is a renewable energy source or what is not, and they chose not to do that. They chose to define it and then asked you to review some goals.

So I would urge that the statute is the controlling document. Not to say that the Governor's Executive Order is disregarded or, you know, not to be considered, but I think that purely from a legal standpoint the statute is what you ought to look to.

MR. TRAPP: Would you agree that different technologies have different emission profiles with respect to greenhouse gases?

MR. MOYLE: Yes. I don't think there is much of a debate on that. It seems that if you could have wind in Florida that that would have a different impact than some other technologies. But, you know, my guys, the waste-to-energy guys, and Mr. Wright alluded to it earlier, can make an argument about having a negative impact on greenhouse gases as a result of the methane trade-off and things like that.

MR. TRAPP: But some of the technologies that may be

nearer term than other in terms of cost-effectiveness typically use combustion as their heat source, don't they? And by combustion I mean CO2 emissions associated with them. And I'm conflicted between where to set the priority if we don't have any type of tier or set-aside system in this RPS about how to, you know, get the most bang for our buck in terms of green, clean, and --

MR. MOYLE: And, I think, with respect to that, I mean, clearly 20 percent is a big target out there. And I think what the Governor is trying to do is to encourage people to stretch. I mean, when people set goals -- I don't think it does a lot of good to set goals that are easily attainable. So the 20 percent number, in my view, was set to make people think creatively and to really push in that respect.

You know, the Governor recently appeared at an announcement, I think it was the same day we had that workshop with our friends at Progress and a company that is going to do a wood facility over in Liberty County which will take pulp products, as I understand it, and things coming out of the forest and generate electricity with that. But he was promoting that and stood with them at the Governor's Mansion to announce that. So I think with a 20 percent number there is probably sufficient room to encourage both combustion and noncombustion renewables.

MR. TRAPP: Thank you.

MR. FUTRELL: Charlie.

MR. BECK: My name is Charlie Beck with the Office of Public Counsel, and I'm going to echo the concern about getting rid of ties and jackets at the Public Service Commission. I think that would be terrific.

I would like to address -- still being on B -- the impact on customers from a renewable portfolio standard. During the full Commission workshop on July 26th, there was a number of really interesting and really fine speakers, and one of them was from the EPA who mentioned that they have a website that they use to assist states for resources for clean energy. And I went to that website and looked at their clean energy environmental guide to action, and in there, one of the things that is in there is a survey of states, and some analyses that have been done in different states about the impact of renewable portfolio standards on customer rates.

And when you go there you find there is a number of states where the impact is estimated to be a savings to customers as opposed to the business going forward as usual, and then in other states it was estimated to be an increase. To me that is really interesting that some states actually see that there will be a reduction to customers' bills from renewable portfolio standards.

So, I went to the web, looked at some of those analyses and quickly came across one that was done in Colorado,

and to see how they got there. And there was an analysis by a person named Ron Binz, who incidentally is the Chairman of the Colorado Public Service Commission at this point, but he did an analysis before he was appointed to the Commission there looking at the impact of a proposed bill in Colorado. And what he did is they did -- which is a standard analysis, you look at the net present value of the renewable resource and compared it to the net present value of the cost of the avoided cost, which in his case was a combined cycle gas plant.

In there what they did, or what he did in this analysis is he assumed that all renewable energy in Colorado would be through wind turbines. They looked at the cost of various alternatives, and this was the least expensive and most productive resource they had in Colorado. They did the net present value analysis and tried to estimate the costs over a lengthy time period, and then compared that to estimates of the combined cycle gas plants and reduced all of these over long periods of time to net present value.

And he determined there that there would be a reduction of about 20 cents per month to customer bills as a result of the standard there. And this was in 2004. I think ultimately Colorado went to something different in the next year, but immediately, you know, from reviewing that you think, well, that really doesn't apply to Florida. We don't have the same wind resources that Colorado does, and then you realize

how windy it can get there.

But we do have other resources here in Florida that I think need to be considered. One of them was just mentioned by Mr. Moyle on the Progress plant that was announced the same day that the Commission was having the full Commission workshop on the renewable portfolio, and Progress has since that time filed a petition for approval of the contract, and the analysis they did for the approval of the contract was essentially the same analysis that you see in other states when they estimate the impact on customer bills from renewable portfolio standards. And that is they took the price that they are going to pay for renewable resource, in this case the biomass plant that is planned for Liberty County, looked at the future stream of costs over a number of years, and then compared it to the cost of a combined cycle plant. And in the analysis that Progress has at least filed they show a net present value savings of $41 million for customers essentially over the 20-year period of the contract.

So, in other words, at least that contract, you know, logically should result in a reduction over what customers bill would be if they went with a combined cycle plant as opposed to the contract there. You know, it seems to me that we need to be looking at all of those sorts of things. All of our different renewable sources here and doing that type of analysis and just see how far that can take us without moving

to increasing customer bills.

I've got to give the municipals credit for bringing a proposal, and it's excellent for discussion, but I think it's premature to be looking at increasing customer bills. Because we have got to see what is available to us, what are the different resources, and look over a long time period and see whether we can meet the renewable goal with existing resources without increasing customer rates. Because I have been listening to a lot of these discussions, and I don't think I have ever heard the answer to that. You know, there hasn't been that study of what can we do over a fairly lengthy time frame and where will we be using a cost-effective analysis.

I agree that the Commission is governed by the statutes, that the Governor's Executive Order did not revoke any of the statutes governing renewable energy, and certainly the staff has listed most of the criteria as goals that are found in 366.92. But there is also other statutes that apply to renewable energy, and I know you are all familiar with them, and full avoided cost is a term that is used throughout in evaluating renewable. Those statutes are still in effect, and I think the Commission has to go with them.

There is probably some room under looking at avoided cost and determining the impact on customers' bills. One of the things that I think would be very appropriate would be to look at the expectation of carbon costs when comparing the cost

of renewables compared to the cost of traditional generation. That was a big issue in the Glades Power Plant case about just exactly what would be the carbon taxes. And amazingly enough in that case there was different evidence, one from a group from the environmental community and one from Florida Power and Light giving different estimates of what the carbon taxes would be over future years.

When you got down to the median forecast, the middle forecast that they all had, or what I would consider the most likely forecast, they were essentially the same. I mean, there was a good agreement between both the industry and the environmental groups on what at least at that point the expectation is for taxes. And I know there is none at the moment, but I think there is a consensus on what people expect, and I think that expectation should be incorporated into an avoided cost analysis. It is your best estimate of what the cost will be.

So anyhow, I think it is premature to be looking at increasing customer rates. Before you even reach that question we have got to look at what is available, what are the most cost-effective means for renewables, where do we get the most bang for the buck, and see where you are. Because until you know that, I think you can't go forward and say we ought to be increasing customer bills.

MR. FUTRELL: Barry.

MR. MOLINE: Thank you. Just a quick response and then a little bit of information, and that is that we feel the same way, precisely the same way about the lack of our knowledge of the resource for renewable energy in Florida. The Commission, and I believe combined with DEP, did an analysis in 2002, and that needs to be updated. And there is an assumption that renewable energy costs more because if it didn't we'd have it already. We would be seeing it right now because we would have projects coming to us utilities and saying let's do this today.

So let me tell you -- I haven't given you the information yet -- but the point is if we set a high goal and don't fund it, then we are just setting ourselves up to fail. I mean, the utilities take goals very seriously. If we are told to achieve a goal, we will do everything we can to get it. So the idea of setting a goal that is just out of reach or whatever, you know, may sound good in theory, but if there is a goal out there we have got to try to get that goal. I mean, that is serious business to us.

So, you know, if the goal says, hey, try it, and if you get there, great. You know, and if you don't, that's okay, too. Well, that is different from setting a goal of 20 percent and saying do it.

The piece of information. Very important, and that is that we recognize the resource study, the lack of

information about that. And we contacted the Department of Energy and just asked is there money available to do a resource study, and they said probably. And we've talked about the idea of getting some money to do a resource study here in Florida, one that could be done relatively simply in the next few months.

There was somebody testified at the last meeting from the EPA that said they had some resources available to help do resource studies. So, the idea is that there is some discussion going on about updating the resource study, because we cannot make decisions about any of these technologies unless we have actual data that's going to say, yes, we are different from Colorado. So, thank you for bringing that up.

MR. FUTRELL: Bob.

MR. REEDY: Bob Reedy from the Florida Solar Energy Center. And I think first I must weigh in on the dress code issue. I vote in favor of ties. Without that rule I could not wear my radiant ties. Imagine me in a golf shirt and Bermuda shorts, but still wearing the tie. So, there we go.

I'll stick to the one question and then hope that I will have an opportunity to address other issues in your agenda today, and that is the issue of the efficiency and how it might fit in this discussion. We at FSEC are all for efficiency. Fully half of our staff, our researchers are involved in developing more efficient homes and buildings. We see -- and I

will do some fuzzy facts and some opinions and observations and then I will be done for now.

We see tremendous numbers in efficiency, and the term low-hanging fruit is overused. I just call them moderately aggressive terms. And we see in Florida in some time frame between 2014 and 2020, 2015 and 2020, fully 20 percent of the net energy for load available with efficiency -- just with efficiency and just moderately aggressive, and by that we mean in a zero sum type analysis, the net of the utility bill and the net of the mortgage, or the interest rate, or cost of capital to make the improvement is positive, is a savings. So it's a why not proposition.

So we continue to see -- you hear me saying efficiency is wonderful and efficiency ought to be done. I have a lot more numbers and I won't go into them. I'll just say that 20 percent of net energy for load is easily available in an economic zero sum proposition. If we then say, and I will start moving towards one more fuzzy fact, a fuzzy fact because it's not -- you can see my calculations here. Something like between 5 and 10 percent of net energy for load is available from solar resources alone. And I heartily endorse, as Barry was discussing and others have suggested, a more full resource assessment of all the types of renewable resources in Florida. But we are the Solar Energy Center and we do have a handle on that number, and that number is easily

between 5 and 10 percent of net energy for load.

And these are with not so aggressive techniques either, and I can give detail on that, but I won't. So the picture we present is there's lots of renewable resource and we haven't even discussed all the others, biomass and ocean current perhaps, and waste-to-energy, or anything else that's on the table today. But I get to my observation now and say that efficiency is a strange animal. It rewards the consumer directly in reduced energy cost. So it becomes a challenge to work through who benefits, who pays, and that sort of thing. And so as a result, most jurisdictions tend to address efficiency through the building codes and through the builders and the consumers, as has already happened in Florida with existing state energy building code requirements, and that can certainly be enhanced and should be enhanced.

That also addresses the climate change in a very significant way because the numbers are so large. Certainly efficiency by a utility should be a direct -- I believe should be a direct count. And if a utility can cause efficiency by the consumer in a way that is accountable, there is room for that. I'm saying there is room for that, but I now end up with my opinion and that is that precisely because efficiency is so rewarding in terms of greenhouse gas reduction and saving energy, that precisely because it is so large it really should be addressed separately, predominately separately than from the

RPS. And with that, I'll stop any comments, answering questions, and hope to speak again later about some of the other topics that are on the agenda.

MS. HARLOW: Mr. Reedy, I would like to take this opportunity to ask you a question about your presentation from the previous workshop, if that's okay. I'm sorry to blindside you.

MR. REEDY: If I remember it. That should be fair.

MS. HARLOW: You brought up the idea at the workshop of a definition of renewables based on attributes. Was that you?

MR. REEDY: That was me.

MS. HARLOW: And you also mentioned a process for approval of specific technologies. Could you fill us in a little bit more on how you think that process would work and how you would define renewables based on attributes, please?

MR. REEDY: The attribute approach, rather than the technology definition, is an opportunity to allow things that we don't know today or have not become developed today. If we have a laundry list of technologies and say these are qualified we can hurt ourselves, and there are examples of that happening in the past. If the attributes are defined in a way that achieve the goals and then examples are given, in the first pass there can be a laundry list that meets those attributes, but if the language is such that there is a process for

bringing in something else and it doesn't require changing the entire regulation, I think we have set the stage for the types of adjustment, reassessment that have been advocated here today.

I'm not a lawyer, but I do believe there is a way to construct a two-tiered approach, an attribute definition, a list of the technologies that meet those, and then a process for bringing forth without having to rewrite the rule to bring in a new technology. And I suggested attributes like that there is no -- number one, that essentially there would be no constraint other than the natural constraints on a resource. That there not be an opportunity for a law to change or human intervention, strikes, or resources drying up in an area. That would be one, to make it renewable it has to be there without anybody doing anything.

The second attribute I would suggest is that there not be a negative environmental impact from the process. And that's from, as they say, from start to finish, the complete process for the technology.

And then a third attribute could well be -- you probably have the notes, and it has left me. I had one more that I thought of at the time and I can't bring it out right now, so I will leave it.

MS. HARLOW: How do you think that that kind of process to approve new technologies would work? Would there be

a periodic review by -- say it was administered by the Commission, let's just assume that to make it easy. There would be a periodic review by the Commission of types of technologies every so many years, or would it be triggered by a utility or other party coming before the Commission and saying we have something new, we think it should fit because of its attributes and asking for approval at that time. How flexible do you think that approval process should be?

MR. REEDY: I think either way would be fair. However, there may be constraints on practicality. So there may be some wisdom in having an annual review or some process like that. It's unlikely that technologies will develop faster than within a year, so I might sympathize with staff and the Commission and speak for an annual review. Perhaps a clause that if something really unforeseen comes forward that there might be a special exemption from the Commission to bring it forward. But it could be done annually.

MS. HARLOW: Thank you.

MR. FUTRELL: Ryan.

MR. KATOFSKY: Ryan Katofsky, again. I just wanted to add some thoughts on this issue of eligibility and attributes. And what I find is that people will often use or intermingle technologies and resources without necessarily realizing that they are doing that. So if you do go down this path of trying to talk about eligibility based on attributes

that you be very clear whether you are talking about which resources are eligible. So by that I mean the sun, the wind, biomass, et cetera, versus technologies. And I will give just a couple of examples of states that have put some of those provisions on eligibility.

In New Jersey, when they originally passed their RPS, they talked about a biomass sustainability criterion in the RPS statute, but they didn't really say what that meant. So then it would be up to the regulatory process to figure out what it would mean if biomass could be collected and used on a sustainable basis.

In Massachusetts, for biomass eligibility they referred to what they called advanced low emission biomass technology, and that was included in the legislation, and to this day -- that was back in 1998 -- to this day they are still grappling with exactly what that means. And they have gone through several different iterations on trying to define what is meant by advanced low emission biomass. Does it mean a stoker boiler does not apply because it is not advanced technology? What if you put a stoker boiler with advanced emissions control so that it achieves very low levels of emissions, does that qualify? So they have spent a fair bit of time dealing with these issues when it comes to attributes.

For hydropower, states will often limit eligibility based on the size of the project as a proxy for the

environmental impact of that project. But a small project can still have environmental impact if it is a particular kind of project. So, there is definitely precedent for doing this this way and there are different reasons why states would choose to add these constraints, if you will, on the attributes of the technologies, but I would just caution about going carefully about it and being very deliberate about what you are trying to achieve by doing so.

MR. REEDY: I would respond to that and say that we are delighted for either approach, and I brought forth the attribute discussion for discussion, and we see perfectly within the abilities of the process for worthy technologies to be defined and brought forward. I bring the example up, it really is very pertinent to us because we often see solar thermal energy hot water ignored as an act of generation resource that directly offsets electric generation, and I know many people have seen my little slide cartoon that kind of makes the point that it's really the same thing. So that is why I particularly get drawn towards the attribute approach because it speaks (inaudible).

MR. FUTRELL: Mr. Graniere.

MR. GRANIERE: I would like to go back a little bit, Mr. Reed. I'm sorry, I don't have a question for you. I think I understand where you're coming from. I would like to go back to the questions about the study that were raised by PC, Public

Counsel, and Mr. Moline, and I would also like to ask this of the utilities, too. This question of the utilities, also.

The question is we have already talked about monitoring and evaluation. We have already talked about phase in. We have already talked about cost-effectiveness and minimization of impact on the ratepayer. With all of those -- and I'm going to assume right now that everybody agrees with those things. With all of those things working from the onset, would it be possible to do this study simultaneously with implementing a renewable portfolio standard, or is this study somehow -- does this study have to be completed before the implementation begins? And I ask that question of the Public Counsel and all the utilities.

MR. BECK: Bob, it would make sense to me that it be completed before implementing it, because it is essential facts that you would need to know to decide, I believe.

MS. CLARK: Bob, one of the things that we would suggest is look at the assessment that has been done in 2003, and do an update on that to see what would be available, and then after that continue to look at it. But you have something that you could start with.

MR. MOLINE: I think that there are aspects of the RPS that are unrelated to the resource potential that could be worked on. So when we talk about doing things in parallel, it is reasonable to say, well, how do we want to measure and

verify, how do we want to look at renewable energy credits, and so on. Those things are unrelated to the actual percentage or resource that is available and the timing of those.

So, the point about are there aspects of this effort that be can be done in parallel, the answer is yes. In order to determine the phase-in of the actual resources, I would agree with Susan and with Charlie that you absolutely have to have information about the resource potential to have a better understanding. And we are sort of grappling with, well, where do we set percentages and how do we set multipliers possibly or carve-outs and quotas and so on, and we have no idea. We are really talking about these things in a vacuum.

But most important, I think, is it can be done in a few months. I think this can be done just in short order, not as a 300-page major league analysis, but, you know, you can talk to developers, and look at information from the Department of Energy, and EPA, and get pretty close to the ballpark as to what's available with an economic analysis, a simple economic analysis, and simple carbon profile, emissions profile, and then have a picture of where we are so we can determine where the potential is and where we need to go.

MR. GRANIERE: One follow-up question. Would this need for the study be less pressing if there was not an alternative compliance payment or some kind of penalty?

MR. MOLINE: Well, I'll venture on that. It seems to

me as though you are suggesting that start down the road and if you can't get it just pay some money, correct?

MR. GRANIERE: No, I guess what I'm trying to say is that part of the general enforcements of renewable portfolio standard, what has emerged in the rest of the country is something that is called an alternative compliance payment, which ends up being a penalty. Something is done with the money. What I'm saying is suppose that there was not a penalty initially, so that in the phase-in and those numbers that are there tend to have some sort of aspirational characteristic. Would it then be less pressing to do this study because the penalty might come in later in the evolution as opposed to immediately?

MR. MOLINE: The way you described it, the answer is yes. There is no question that if you have no penalty and you just start down the road, you go to the market, you see what the market delivers, and then you try to assess a phase-in period. But why bother going down that road when we can find out? You know, it seems like we could put the cart before the horse, but why bother when we are not quite at the starting line yet. So why don't we, before we get to the starting line, just take a look at the track and see, you know, how far it is around.

MR. TRAPP: Don't you feel that the cart is already here though? I mean, we have a challenge, a 20-percent

challenge put on the table.

MR. MOLINE: I think that we could do a resource study in a few months.

MR. TRAPP: I would encourage you to do so, but I'm intrigued by Bob's suggestion that we don't use that as an excuse to delay anything, that we keep plugging on down the path here and work toward a proposal.

MR. MOLINE: If nothing emerges by the time that the rule is complete, then that is a possible opportunity. Recognizing that if you start down the road of the penalty component, delaying a penalty component, when you say the words penalty you are saying over here to Charlie rate increase, so do not be confused by the word penalty. Penalty equals rate increase. If you want to delay the penalty, that's okay, but penalty ultimately will equal rate increase.

MR. TRAPP: Whoa, whoa, whoa. Not necessarily. Penalty could mean stockholders.

MR. MOLINE: It does to us.

MS. CLARK: Bob, this is Susan, and I just want to respond to what Bob Graniere had said. I mean, he has characterized it as an alternative compliance payment. It is not, as I understand it, designed to be a penalty. It's designed to address where you can't get to your goal and you make this alternative compliance payment in order to gather some funds to get to what you want, is more renewable. I mean,

you said it wasn't a penalty, but then you describe it as a penalty.

MR. GRANIERE: Well, in the end it generally comes out as the penalty aspect of an incentive mechanism, and then what the issues then become is what is done with the money after that. But what I'm suggesting here is that I could understand, I really do understand why a study is important when there is an alternative compliance payment that starts immediately, let's say the first year, right? What I'm suggesting is that if the alternative compliance payment was maybe to start after the first three years to see what happens, that at that point those are three years where there is only a reward, but not a penalty. But you are correct that the purpose of an alternative compliance payment is to generate funds that generally are used to go in and create a fund to do more renewables or something, but there is no doubt about that.

MS. CLARK: Well, I would suggest if the goal is to get renewables by instituting a penalty, you know, that's not the objective is to be able to penalize, the objective is to get the resources.

MR. GRANIERE: And that is why I'm saying the alternative compliance payment is usually a last resort, not the option. And so as a result what I'm suggesting is because it is a last resort there is no -- I don't see, personally, a real need to have that kick in immediately, and that would take

off pressure about what's going to happen in the first three years. And by the end of the first three years we should know a lot more than we do now. I mean, that is just an idea of how it might work.

MS. CLARK: But I would suggest the goal originally should be set realistically that it is the goal you think you can achieve in those years, otherwise why set it?

MR. GRANIERE: Well, that's what I'm saying. It can be set realistically, but that doesn't mean that it has to be absolute certainty that we will hit it. Because by the very nature of looking into the future you are not absolutely certain that the number that you pick is going to be the number you get. You are just not absolutely certain about that. And so to think that a study done today would be able to map out a plan for the next 15 or 20 years, I think, in my opinion, is a bit unrealistic.

MR. TRAPP: Let me just interject myself here and say I'm a little concerned that we were getting a little too myopic here with respect to our exploration. So far we seem to have boxed ourselves into the Moline approach, and perhaps there are elements that can work into that to stay there, but there is also elements that can go outside of it.

Let me put one on the table. What's wrong with the utilities owning the asset? What's wrong with the utilities earning a return on the asset? What's wrong with the utilities

being penalized through a return on equity adjustment if they don't reach the goal by not owning some portion of the assets?

I mean, so far we have talked about let the marketplace do it. It seems to me that you all are part of the marketplace, and utilities ought to be as responsible for building clean technology as this other marketplace. There is nothing that says you can't co-opt with the Solar Energy Center to take one of their systems, get it in the marketplace. You own it, you earn a profit on it, and you meet a goal with it. If you don't meet the goal, maybe we should penalize you for it. So I don't want to get too constrained in our construct here.

MS. CLARK: I don't think we are arguing that. We will argue for flexibility in reaching that goal and however is the best way to reach that.

MR. BRYANT: And from the municipal side, I know you won't forget that our stockholders are our customers, and they own us. And they will pay in their bill, if there is a penalty or any extra cost, that's who pays, our owners, our stockholders, our customers, who elect our officials who run their utility. So that is why we have structured for the municipals the Moline approach as we call it, because we are different as you know. And I told you I wasn't going to argue jurisdiction.

MR. TRAPP: He turns red every time you do that, you

know that, don't you?

MR. BRYANT: But there is a big difference between what municipals are here for and what we are all about and everybody has an important part at this table, but we are different and that must be recognized.

MR. TRAPP: And the rule certainly needs to reflect that, but there is nothing that says that a municipality can't own an asset either.

MR. BRYANT: No. And remember, municipalities have no bias for owning or against owning, because we don't have a rate base upon which we earn a guaranteed rate of return. We always choose what we think -- and we hope we are always right -- the lowest cost alternative. Whether it's wholesale power, whether it's renewables, whether it's conservation, whether it's building our own unit, okay? We always do that. Why? Because our customers through their elected officials insist upon it. And so from the municipals, our only point is we are different, and the rules have to reflect that difference.

The Commission has been pretty good throughout the years in adopting rules and recognizing that difference, and it is a big difference, that is why we have the Moline proposal.

MR. FUTRELL: Dell.

MR. JONES: I just have one comment, and perhaps an inherent disadvantage of a municipal owning a renewable energy

asset is that they can't avail themselves of 30 percent federal tax credit, or production tax credits, or the rapid depreciation. And when I was working at JEA developing projects, it became inherently obvious to us that it was better to partner with an outside source to basically own the asset, capture the federal tax advantages that were available. So, you know, on one hand, yes, the IOUs have an advantage on owning an asset if they are allowed to own, operate, maintain, and sell the energy out of it. But a municipal utility nonprofit has that disadvantage.

And the other thing I would make a comment about, you know, is the fact that if the noncompliance costs or alternate compliance method is applied to a utility, whether it's a municipal or an investor-owned, it should be clear whether that is cost recoverable or not. And if it's a muni, you know where it's going, it's going right back to the rate base. If it is an investor-owned utility, the question is is that rate recoverable. If it comes out the stockholders' equity, or stockholders' returns, then I believe the investor-owned utilities are going to be more keen on paying attention to meeting those goals than if they are allowed to be rate recovered, the alternate compliance costs.

MR. MOLINE: One comment on ownership, and that is that utilities do own power plants and we do operate power plants, sort of traditional conventional technologies. We

don't claim to be experts in every type of generating technology, and we see a lot, you know, of folks that are represented in this room that can provide those resources, and we just think that it would be a better idea to, you know, have the flexibility.

In some cases, as Susan said, we might own the asset and in other cases our customers or the renewable energy provider would own those assets. And in particular in the case of just one example, photovoltaics on the rooftop of a customer. There are some utilities that actually do own those. They have a program where they put them on top of customer's roofs. But in most cases they just provide an incentive to the customer, the customer then owns the actual asset. The utility, you know, takes the energy, and clearly we'll be talking about this in the next couple of weeks, you know, net metering. But they take the power and they take the recs for that, in exchange for the incentives. So our preference would be to see flexibility in ownership.

MR. FUTRELL: Yes, sir, go ahead.

MR. BRANDT: My name is Yann Brandt. I'm with Advanced Green Technologies out of Fort Lauderdale, and I would like to thank you for starting to talk about photovoltaics, because this is the Sunshine State, and I would like to start talking about that. Because of that resource that is available, as Mr. Reedy spoke about, the solar maps are there,

the production for solar is available in Florida. And we kind of touched upon the utility-owned renewable energy farms, or kind of generating plants that they are not privy to that investment tax credit at this time, however, there is a bill out there that is going to take the utility exemption out, and hopefully we will be able to see that in the near future.

I wanted to kind of touch upon a few topics we spoke about this morning, starting with energy efficiency and why it is our opinion that it should not directly effect or be integrated into the RPS, and that is because if the RPS is based on total retail sales, any reduction in that sales through energy efficiency methods with a percentage-based RPS would just reduce the amount of renewable energy that has to be created to reach the RPS mandate. So, in effect, it comes into play without being double-dipped into by reducing the total retail sales and then taking that total deduction and applying it to the mandate. So I think that's where we need to differentiate energy efficiency.

MR. TRAPP: That is a very good point that you raised, but I don't think its limited to conservation. I think it also applies to self-service generation. Anything that occurs on the customer's meter side is going to effect that NEL. So I think as we get into discussions about how to set the goal, if we pick an NEL goal, I agree with you, it needs to be what would the NEL have been prior to demand-side and

supply-side effects. So some adjusted number is going to have be used for the goal, in my opinion. That assumes we use NEL.

Now, there are other approaches. I think you can go to generation, just to gross generation, or net generation, or something like that. We do need to discuss that point as a technical, you know, point in this, but it's very good point. You have to be careful about what you are taking the percentage goal off of, because you can very easily mess up if you are not careful.

MR. BZANJT: And that is going to be a point of technical discussion, you know, studying the RPSs that are out there right now. There are a few states that I really look at when it comes to, you know, the solar side and/or distributed side, such as Arizona, Colorado, Maryland, North Carolina now, and Delaware all have either have solar carve-outs or set-asides, and some of them may also have a multiplier. But some actually don't give a technology set-aside, but actually will do a distributed energy set-aside saying it has to be with distributed energy, which I also think is a good goal.

Colorado actually does both, and says X amount, X percent has to be from photovoltaics, half of which has to be distributed energy. And that is where the co-ownership and providing incentives to the homeowners and the building owners comes into effect. There is a whole other side of the employees and the associates of corporations getting involved

into energy efficiency just by seeing what the corporation is doing with renewable energy. And that's also going to tie into effect. That is why I really like the total retail sales aspect of doing the RPS, because that gives everyone involved, you know, incentive to reduce the total retail sales. It takes the peak demand off the grid in order for us not to have to increase our power plants or, you know, bring added costs to the investors. You know, the EIA has a forecast and by 2030 calls for a U.S. wide 41 percent increase in energy demand. We do have to be aware of that, and if we can reduce that in Florida through what we are going through today that would be a great step.

One thing I want to hit more on, and we spoke about it this morning, is that multipliers have been used in the past, however, most of the states are going to the percentage set-aside instead of the multiplier. Maryland just went from a multiplier to a set-aside when they revised their RPS. The federal RPS that's in the same renewable energy bill actually gives a multiplier for distributed energy. So, you know, we should learn -- being the 26th or 27th state coming into the union with an RPS, we should learn from what has happened in the past ten years or more from those other states. I think that is a study that we should be looking at, and then look at our resources through another study.

However, one study that has been done by the EIA

through the federal -- the Senate called for a federal RPS, they asked the EIA to do a study on the cost effect from an RPS. And I will quote this right from the study, "The EIA projects the national average electricity price with an RPS to be two percent higher than in the reference case, 8.2 cents per kilowatt hour with the RPS compared to 8.1 cents per kilowatt hour in the reference case. By 2030, however, prices for natural gas and coal, two key fuels for the electric power sector, are low with the RPS than in the reference case."

And I want to touch on Item B as one of the goals that should be to hedge the cost of our fuels, and to be sure that we can -- whatever you think that peak oil demand date is, whether it is 2000, like some people think, or 2050, it's in this century. I mean, you can look at every expert and see from whatever industry they come from, it is going to be in this century. If we can prolong that peak oil demand date and move that forward, because we really depend on oil, however, we don't just depend on any oil, we depend on cheap oil. If gas is at $10 a gallon, that doesn't do anyone good. Only the people that really, really need it are going to be using it.

So what we want to do is hedge our cost for fuel in the future by going to renewables, and I think that is the main intent of renewable portfolio standards across the country. And to tap into the sources of renewables that are available in each state, and that is why those set-asides come into effect.

So, that is what I have. I wanted really to just touch upon that. And if you have any questions.

MR. FUTRELL: Thank you very much. And I know we have got a couple more speakers, but we really need to take a lunch break.

Before we do, there was a discussion about the resource assessment and study and how that would work. The staff has prepared a spreadsheet based upon data that was available to us, and we are going to pass that out and let you take a look at it over lunch. It's a look at renewables that are out there currently, and what we have information on and what is coming, and we would like for you to take a look at that during the lunch break, and we will discuss that when we get back. Let's come back about 1:45.

Thanks.

(Lunch recess.)

STATE OF FLORIDA)

: CERTIFICATE OF REPORTER

COUNTY OF LEON)

I, JANE FAUROT, RPR, Chief, Hearing Reporter Services Section, FPSC Division of Commission Clerk, do hereby certify that the foregoing proceeding was heard at the time and place herein stated.

IT IS FURTHER CERTIFIED that I stenographically reported the said proceedings; that the same has been transcribed under my direct supervision; and that this transcript constitutes a true transcription of my notes of said proceedings.

I FURTHER CERTIFY that I am not a relative, employee, attorney or counsel of any of the parties, nor am I a relative or employee of any of the parties' attorney or counsel connected with the action, nor am I financially interested in the action.

DATED THIS 4th day of September, 2007.

JANE FAUROT, RPR
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