VERBATIM PROCEEDINGS

CONNECTICUT ENERGY ADVISORY BOARD

PUBLIC HEARING

ON

ELECTRIC DISTRIBUTION COMPANIES'
INTEGRATED RESOURCE PLAN FOR CONNECTICUT

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. . .Verbatim proceedings of the Connecticut Energy Advisory Board Public Hearing on Electric Distribution Companies' Integrated Resource Plan for Connecticut, held February 11, 2010 at 1:00 p.m. at 185 Main Street, New Britain, Connecticut. . .

CHAIRMAN MICHAEL CASSELLA: Good afternoon, everyone. In the interest of punctuality, we'll get started. I'd like to welcome you to the Connecticut Energy Advisory Board Public Hearing on comments for the 2010 Integrated Resource Plan.

And just to give you some ground rules for this afternoon, we'd like to ask everyone to come up to this table where the microphone is, so we can get your comments on tape. Please identify yourself, your name and organization that you represent.

Also, if you have written copies, please give a copy to Gretchen, and limit your comments to five minutes. So, having said that, we can get started. The first person we have this afternoon is Steve Goldschmidt, who is representing himself or the public. Mr. Goldschmidt?

MR. STEVE GOLDSCHMIDT: Thank you. My name is Steven F. Goldschmidt. I reside at 20 Spinning Mill Court in Guilford. I'm an electrical engineer with a Master's degree in power systems and engineering from Rensselaer Polytech, and, currently, I'm an independent consultant with over 40 years' experience in the electric power industry.

In the interest of full disclosure, I've consulted for U.I. on this and the preceding IRPs. I'm now a civilian, a member of the public. I support the recommendations contained in the 2010 IRP submitted by the EDCs.

I want to make several personal observations. Having worked in the industry --

CHAIRMAN CASSELLA: Excuse me for a second. Could you just speak up, because we're not being amplified, and I know the people in the back of the room are having a hard time hearing?

MR. GOLDSCHMIDT: Okay. Having worked in the industry through the decades, where nuclear power became a dirty word and people had an almost visceral reaction to it, it is interesting to see that with the passage of time cooler heads have prevailed, and many jurisdictions are contemplating building new nuclear

plants.

Recently, President Obama has suggested that nuclear power needs to receive serious consideration as part of our energy future and is seeking to increase financial loan guarantees.

Connecticut, which has two operating nuclear generators and is home to the nuclear Navy, should be progressive and willing to consider new nuclear generation as part of its energy future instead of being stuck in the 1980s mindset.

The targeted DSM, efficient gas expansion, including repowering, and nuclear strategies are given the assumptions utilized in the IRP study the most cost effective strategies under many of the scenarios and their assumptions, however, nuclear provides the greatest environmental benefits and lower cent per kilowatt hour cost in all but the low gas, low CO2 scenario, as can be seen in Figure 5.6 on page 516.

Figures 5.7 and 5.8 on pages 517 through 518 of the report show the environmental benefits. DSM and nuclear strategies, while both leading the way in environmental benefits, also reduce dependency on natural gas with nuclear being the more effective, as can be seen on Figure 5.9 on page 519.

Nuclear obviously takes many years to develop and has significant obstacles to overcome in Connecticut and New England. The question is should new nuclear be considered as a part of Connecticut's energy future, and, if so, how can that future be created?

Based on the results of the analysis detailed in Section 5 of the IRP, U.I. states, in light of the potential benefits of a nuclear strategy identified in our analysis, U.I. recommends that the CEAB conduct, sponsor, or otherwise support a more detailed study of the potential costs and benefits of nuclear power with the objective of providing a more complete picture of the tradeoffs encountered in considering nuclear power as a long-term resource strategy for Connecticut.

This is not a recommendation to build a nuclear generator, but, rather, a recommendation to study the pros and cons of implementing a nuclear strategy for the future.

I very strongly suggest that the CEAB carry out that recommendation. We need to provide facts that can address what are often irrational fears and biases about nuclear generation and be sure the Connecticut policymakers are not ignoring the overwhelming benefits of nuclear energy. It has to be studied now.

Ambitious environmental goals, such as those proposed for 2030 and 2050, will be difficult, if not impossible, to meet without zero emitting sources replacing carbon-based fuel in transport, industrial and residential markets.

Methods of procurement of low cost energy resources, such as nuclear, in order to gain the benefits for customers, must be part of the evaluation. The CEAB and state energy policymakers cannot ignore significant strategy option, which very likely is superior to other strategies in meeting the long-term environmental and energy policy goals of Connecticut.

The all achievable, cost-effective DSM should be a goal, especially when the economy turns around, while the targeted DSM should be implemented immediately, since it is for all intensive purposes customer cost neutral while providing environmental benefits through overall reduction in electric energy usage.

Long-term energy policy needs to focus on diversification of both supply and demand resources. Potential over dependence on natural gas could be a long-term issue. Even though it appears that shale gas is expected to provide abundant supply, emerging

environmental issues could mute its development.

We also need to learn from prior experience when over reliance on a single fuel source cause both price and supply issues.

While there is a need for renewable energy development, some renewable resources may not be the most cost effective means with which to meet our environmental objectives. Blind adherence to renewable portfolio standard requirements may indeed be a more costly approach than other alternatives in meeting what should be our core goal, reduction in environmental impact, reliability and the lowest possible customer cost.

Current renewable resources are expensive and not, for the most part, indigenous to Connecticut. Fuel cells, while perhaps an indigenous resource, are considered to be class one renewables in Connecticut, but are not considered to be class one elsewhere. Fuel cells are really another form of natural gas fuel generation.

Wind definitely has a place in the portfolio, but is projected to be the largest renewable resource contributor, and its operating characteristics, its location will require huge investments in transmission, much of which, no doubt, will result in citing battles and long delays.

Large quantities of wind may also require greater regional reserve levels and modified operating procedures. Especially needed will be natural gas fired peaking turbines to compliment the intermittent nature of wind.

Wind capacity counts only 25 to 30 percent of its name plate capacity and tends to be an off peak resource evenings and nighttime. Wind and solar power have their place, but because they are intermittent and unpredictable, they simply can't replace big base load plants, such as coal, nuclear and hydroelectric.

In conclusion, Connecticut needs to study nuclear power and develop related policy with an open mind, maximize economic DSM, always focus on diversification of supply, be mindful of economic impacts of renewable power, and procure resources in a manner which maximizes the benefits for customers.

Thank you for allowing me to make my comments.

CHAIRMAN CASSELLA: Thank you, Mr. Goldschmidt. Any questions from the committee members? Dr. Gordes?

MR. JOEL GORDES: Have a seat, Steve. Couple of questions, Steve. Refresh me. What was the

cost of nuclear in the IRP, as given, per KW?

MR. GOLDSCHMIDT: I believe, subject to check, it was 5,000 dollars a kilowatt overnight cost.

MR. GORDES: Yeah. Okay. That's ballpark from what I've heard, but I've actually heard higher, like something like 7,000. I've even heard a lot higher than that from some people. Let me ask another question.

MR. GOLDSCHMIDT: Well can I respond to that?

MR. GORDES: Sure.

MR. GOLDSCHMIDT: Because that asserts that it's going to be more expensive than what we assume. Could possibly happen, however, I think Connecticut will not be the first entity or state to build a new nuclear power plant, and by the time Connecticut gets around to it, I believe the cost will be under control.

Therefore, assuming it's going to be, you know, the 7,000, 8,000 a kilowatt out of the box, I think that's wrong. By the time Connecticut gets around to building a nuclear plant, there will be several having been built. They will be more, I believe this time around, cookie cutter in nature, a lot prefab, the licensing structure will be a one-stop license.

If you don't get an operating license when

you apply to build it, you're not going to build it. It's not going to be the story we had the first time around.

MR. GORDES: Okay. What about size wise? What size do you envision a plant and this new generation of plants coming in at?

MR. GOLDSCHMIDT: I've seen anything from 600 to 1,000 to 1,100 megawatts. The plant that we modeled was an 1,100-megawatt plant, or 1,000-megawatt, in that range, and that was based on the Westinghouse design.

MR. GORDES: Okay, so, basically, you're saying this isn't distributive generation and would only be part of what one might call a centralized system?

MR. GOLDSCHMIDT: Well, in the future, nuclear could be more decentralized. It depends whether, you know, package type nuclear plants become acceptable and smaller units more distributed and then put together with district heating and CHP type thing. That's a possibility for the future.

MR. GORDES: But, for this one here, the first of type here for Connecticut and other places, you would assume somewhere in the 600 --

MR. GOLDSCHMIDT: Right, and Millstone has room for several more plants. As a matter of fact, there's one unit that was shut down there. The

transmission can probably handle the output of a 1,000-megawatt unit right there, right now, and it would be a shame to have that site with the cooling water and everything else not accept another plant.

MR. GORDES: Part of the question I'm driving at is, as you well know, I'm concerned with security issues. Environmental issues, too, but I approach it from a security point, and it seems like the more centralized and the deeper centralized you make something, which this would do, the less secure you're probably going to be.

MR. GOLDSCHMIDT: I would presume that the new designs will be designed first off to be able to withstand terrorist attacks, any kind of security.

MR. GORDES: Let me interrupt. Let me interrupt you. I'm not talking so much the plan, itself, and I've seen the pictures of the airplane crashing into the concrete wall. Oddly enough, I used to fly that very airplane that they show in the tapes.

CHAIRMAN CASSELLA: That might have been you, Joel.

MR. GORDES: I haven't recovered yet either. That's right. But the point being is, no, I'm not so much concerned about looking at the, you know,

crashing the airplane into the concrete dome.

By the way, on radar, they make great targets, too, but the point I am driving at is grid design of a decentralized grid from a centralized grid, and I'm not going to go into the details. I've done that ad nauseam before, but it seems this keeps it centralized.

And the other thing is I certainly wouldn't go after, like I said, the dome. I'd go after your spent fuel pool, which because we don't have, and I'm sure my environmental friends are going to pursue that argument much more, because we don't have a national policy on that, the soft target to me would be the spent fuel pool, unless I'm missing something. Am I missing something?

MR. GOLDSCHMIDT: I'm not an expert in that, so I couldn't tell you. I believe that precautions are being taken to safeguard all of those portions of the plants, and I really can't speak to it any more than that.

MR. GORDES: Let me say I support any study type of thing, too. Let me say that, too. I'm seeing some comments coming up we shouldn't even study it. I think, in an open society -- by the way, the first tenet of sustainability in the Commission report is open and accessible government, and that is the document that gave rise to what we call sustainable development, so, again,

having an open process is part of what we should be doing.

Final question is has any, because Brother Fromer is not here yet, has any net energy analysis that shows a positive or very highly positive net energy gain for nuclear plants been done recently by an independent and accredited source able to do such analyses?

MR. GOLDSCHMIDT: I can't address that. I don't know. I could search for you and get back to you, but I don't know that off the top of my head.

MR. GORDES: I mean part of the thing is we should be looking at unintended consequences. We saw what happens and may still be continuing to happen, going a little bit too heavy on corn derived ethanol, helping to spark riots from Cairo to Mexico, so we don't really want to make bad decisions.

MR. GOLDSCHMIDT: You know, as well as I do, Joel, that nuclear can actually be self-sustainable if you're willing to get into the fast breeder reactors, and you can actually take spent fuel from the light water reactors and create fuel. The U.S. has chosen not to do that, because of plutonium proliferation questions, but we have to deal with the fact that China and other nations are building nuclear plants at a very rapid rate.

We can't hold back the development of

nuclear power. What we're doing to ourselves, though, is we're neglecting an important resource. Connecticut has no indigenous fuels to speak of. It depends on the outside for practically everything, but wind, let's say, and maybe some hydro, and nuclear is or can be a self-sustainable fuel, and it doesn't need much transport.

And, so, Connecticut really needs to take a serious look now, because I know it's going to take a long time if and when another nuclear plant is ever built, but I think it's important for our energy policy.

CHAIRMAN CASSELLA: Is there anything else? Thanks, Mr. Goldschmidt. The next person is Christopher Halpin.

MR. CHRISTOPHER HALPIN: Good afternoon. I'm Chris Halpin, President of Celtic Energy, Inc., based right here in Glastonbury, Connecticut. I'm here representing Northeast Energy Efficiency Council, Connecticut Chapter.

First, I want to thank you for giving the Northeast Energy Efficiency Council the opportunity to provide comments at the Connecticut Energy Advisory Board on their recently submitted Integrated Resource Plan for Connecticut prepared by United Illuminating, Connecticut Light & Power and the Brattle Group.

NEEC is a business association of energy efficiency industry. We were formed to help member companies grow and prosper in a challenging environment by providing a voice for the industry to support and expand business opportunities for efficiency companies.

Connecticut is the leader in providing cost effective energy efficiency programs to electric utility customers. This is true for both residential and commercial customers.

The Connecticut Energy Efficiency Fund is nationally recognized for its work in the past and continues to be year after year. The investments in this energy efficiency initiatives continue to grow green jobs in this state and always have been in the 20 years I've been working in Connecticut.

The investments also deliver a four to one reinvestment in the local economy. For every dollar that's invested, we get four dollars back. The benefits are tremendous for consumers and the environment, and -- using the dollars provides a clear example of how businesses and organizations can employ environmentally sound practices without sacrificing the bottom line. Some people refer to it as the triple bottom line.

In 2007, Connecticut passed legislation

directing -- are directed upon the success of existing efficiency improvements. This is where the 2010 IRP is gathering its directive, however, NEEC believes the IRP does not recommend the best level of investment.

We urge the CEAB to target and implement the All Cost Effective Strategy instead of the target strategy. The difference would generate hundreds of millions of dollars in customer savings, and it's a huge difference really in the long-term, and we're talking long-term here.

I think in this state and in many states we've seen firsthand the results of a lot of short-term thinking, gimmicks in the budget, and all these kinds of things that go on year after year after year.

The All Cost Effective Strategy will also help the state meet its environmental goals, including emissions reductions. This savings would hopefully stay in the state, helping generate more jobs, lower bills and lead to a stronger economy in the long run.

Now, as we all continue to deal with the fallout from the economic meltdown of the past year, we need to keep in mind the opportunity to rebuild our economy in the most sustainable fashion possible in both meanings of the word, the green sustainable way, as well

as the traditional meaning of sustainable, where it's good for the long-term.

The All Cost Effective level of DSM investment would also provide additional collateral benefits by simultaneously pushing several publicly stated agendas of this Board, CEAB, as well as the DPUC, ECMB, the Governor and the legislature, itself.

Investing in the All Cost Effective Strategy of DSM asset acquisition speaks directly to our state's stated position on becoming a leader in green jobs. Every job in energy -- in efficiency is by definition a green job.

There's a lot of categories that are trying to create or make themselves into green jobs, just like all of the sudden there's a lot of energy experts out there. Having been in this business 25 years, it's kind of funny.

It really is truly a green job, and each person trained by Connecticut technical schools, universities and colleges can then enter the workforce in a green job in their home state.

It will also help mitigate the flight of young people we have out of this state. Personally, in my own business, I've hired two people from out of state and

have brought them to Connecticut, both from Massachusetts, which is just desserts, I guess.

Also, several years ago, the state required all new buildings funded with taxpayer funds to be LEED Silver, which is Leadership in Energy and Environmental Design or higher, so every school that gets state funding, which is pretty much all the schools in Connecticut, unless they decide not to take the state funding, all state buildings and even a lot of non-profits and so on that are funded by the states.

Now increasing incentives for energy efficiency measures will help pay for the implementation of LEED certified buildings, as well. It has been shown in several studies and in my own personal experience that energy efficiency incentives help finance not only the incremental increase in efficiency that they're aimed at, but also allow the reallocation of capital to other green strategies gathering LEED points, like the use of locally manufactured equipment, another benefit to the state, the use of low VOC paints, adhesives, etcetera, the list goes on and on and on, that all create healthier buildings for our children and our other constituents to live and work in, and all of these help increase local employment and reduce health risks.

There's also another side that's been shown in many studies that reducing asthma in children is also a potential benefit by reducing the emissions of some of the state's dirtiest power plants.

We urge the CEAB to endorse the All Cost Effective level of investment in order to meet the requirements of PA 07-242 and bring economic, environmental and job benefits of doing so to the state. Thank you for the opportunity to speak.

CHAIRMAN CASSELLA: You're welcome. Any questions? Comments?

MR. JEFFREY GAUDIOSI: Thank you, Chris, for your comments. We appreciate them. I'd just like to take this opportunity to point out how, in the Governor's current budget plan, she's looking to take about 37 percent, plus an additional three million, out of the fund.

And with Massachusetts making a commitment to really up their efficiency, decimating this fund now is really the end of green jobs in Connecticut, so I thank you for your support and encourage you and your organization to keep contacting legislators and let them know what this fund does to keep it in place. Thank you.

MR. HALPIN: Thank you.

CHAIRMAN CASSELLA: I don't want to speak to what the final recommendations of the report are going to be, because we just don't know yet, but just in terms of the process, and I'll certainly let my colleagues correct me when I finish, we're trying to put a lot of moving pieces into a puzzle. One of them is DSM.

We're trying to look at how that impacts our RPS requirements going forward, what it does as far as our environmental compliance's concern going forward, and how do you find the sweet spot, as far as that DSM spending is concerned, where you spend as much as makes sense cost effectively, you have a minimal impact on rates, and yet you can derive other externalities, if you will, as far as the RPS standard and the environmental compliance are concerned.

That's really what our goal is and our mission is here right now. It's to optimize those three moving parts of cost, reliability and environmental mitigation, and, hopefully, when we're done and our consultants are done, we will have put all those pieces together and say here's the approach you need to take. Here's what you need to be doing with renewables. Here's what you need to be doing with DSM. Here's how transmissions are going to affect you.

If you haven't seen the last presentation to the Board from a week ago Friday, I think it was, a week ago last Friday, I highly recommend you go to the website, because it will give you a sense of where we are in the process and where we're heading, and I think we're heading in the right direction, but, as I said, I'll let my colleagues correct me.

Hearing no comments, I think we'd better move on.

MR. HALPIN: One more thing, just from a personal note, not NEEC oriented, and I mentioned this when I spoke to the Senate Finance Committee last year about green jobs, is that, you know, I run my own small company, seven people, we do more work in Rhode Island than we do in Connecticut, more work in North Carolina than we do in Connecticut, and more work in Nevada than we do in Connecticut.

I'm looking to hire people, and there's not many businesses out there now that can say that, and we feel very, very lucky. Without this sort of commitment on the part of the state, not only from the CEAB, but, you know, helping the Governor -- turn the Governor around, doing things like entertaining the idea of a statewide enabling legislation for an energy saving performance

contracting, so we can get our state buildings to save 10 or 20 percent without using any capital, self-financing, things like that, there's all kinds of opportunities like that out there, but I'm going to continue to grow my company elsewhere, unless we get the signals from the state that they're committed to the long-term sustainability of this market here.

Again, I live here. I'd prefer to grow my company here, but the market is elsewhere right now.

CHAIRMAN CASSELLA: Clearly, our neighbors to the north have decided that they're going to invest a lot more than --

MR. HALPIN: Yes, they are.

CHAIRMAN CASSELLA: -- we currently are.

MR. HALPIN: And I expect to open a Boston office later this year.

CHAIRMAN CASSELLA: Give me a call.

(Laughter)

MR. HALPIN: Thank you.

CHAIRMAN CASSELLA: Our next speaker is Jeff Gaudiosi.

MR. GAUDIOSI: Good afternoon. I am Jeff Gaudiosi. I'm speaking now as the Chair of the Energy Conservation Management Board, which oversees the

Connecticut Energy Efficiency Fund, and before I get into my comments, I would just, again, offer an apology on behalf of the fund, that we don't have specific comments ready yet.

We were supposed to have a meeting yesterday, but with the great blizzard of 2010, we cancelled it. (Laughter) So we never had the opportunity for the Board to finalize and vet these comments, so what I'm giving now are just some initial observations and comments that I have received from Board members that we put together.

At our next meeting on the 17th of February, we will finalize these and get a written document into the CEAB.

The points I'd like to address first, Connecticut customers will continue to face increasing costs. The 2010 IRP forecasts significant increases in prices and rates. Legislators and policymakers, who are concerned about energy costs in Connecticut, need to look to solutions and resources that have a realistic chance at reducing or at least stabilizing costs.

As the ECMB has reported previously in our 2008 study documented, reducing energy is the most effective way for consumers to reduce costs. Connecticut

has very little influence over energy prices in a regional global market.

Second, Connecticut policymakers, stakeholders and customers all appear interested in achieving significant energy cost savings for consumers and businesses through increased efficiency, as well as the assorted environmental and job benefits with it.

From the perspective of Connecticut's customers and businesses, the All Cost Effective DSM strategy would reduce costs by about 423 million dollars annually by 2020 in the face of rising electricity costs forecasted by the IRP, would also provide significant cost savings for the largest number of customers.

The targeted strategy would reduce costs by about 109 million annually by 2020, about one quarter of the All Cost Effective and would reach fewer customers.

Third, there's a considerable focus at the ECMB and other forums in Connecticut on identifying how best to pursue and fund increased levels of efficiency, how to achieve the benefits and energy cost savings for consumers and businesses, and how much of it to do, how to fund it or finance it, and who should pay for it.

Fourth, while increasing energy efficiency programs reduces total costs for customers, two questions

are often raised. How do we mitigate the rate impacts associated with increasing ratepayer funding for energy efficiency programs, and how do we reduce rate impacts for customers who do not participate in the programs?

Those two questions specifically are things that we're going to be addressing when we have our made up meeting next week, and we'll hopefully get back some answers to those in our comments.

Fifth, the ECMB has been developing approaches to address these questions since the passage of Public Act 07-242. The ECMB is focused primarily on increasing comprehensiveness to provide more cost savings per customer, help customers become more effective managers of their own energy use, and leverage ratepayer funding using financing, thereby resulting in a lower cost per unit of energy savings.

Some of the strategies for that include fully integrated programs for gas and electric, as well as fuel oil and other fuels, innovative financing programs, financing and program strategies that allow projected efficiency savings to pay for themselves at lower cost to the fund and to ratepayers while offering attractive investments for participating residents and businesses.

For business customers, more effective use

of energy service contracts, positive cash flow financing for business and energy service companies to leverage the funds and address the needs of a broader array of businesses, convenient and attractive financing for residential customers, including convenient ways for customers to secure financing on the front end to pay for energy efficiency measures, innovative approaches for securing significant amounts of outside capital for financing that compliment and leverage the ratepayer and public funds.

For business customers, continuous energy improvement strategy and energy management, such as the business sustainability challenge program and other comprehensive approaches, and updated market transformation initiatives for high performance systems, net zero energy buildings and strategic energy management that would make these approaches standard practice for Connecticut residents and businesses.

The ECMB also has some initial concerns regarding the targeted DSM strategy, that the targeted strategy does not appear to be consistent with the program strategies and approaches the ECMB has developed for CNI customers.

The ECMB has worked to fundamentally

transition away from business as usual approach, emphasizing commodity-based single retrofits and toward a higher performance program that emphasizes comprehensiveness, measure integration and system building optimization.

The targeted strategy also does not properly account for gas and electric measure integration that will provide better value to customers. The high performance CNI measures and targeted strategy represent only six of the 93 measures and less than 25 percent of the savings potential the ECMB has.

The Chiller Initiative, which is based on a discontinued pilot project, has not been updated to reflect the Board's strategic emphasis on comprehensiveness and optimization.

The IRP does not acknowledge the potential for increased energy efficiency fund leveraging, customer cost share and broader customer participation through innovative financing that the Board and its subcommittees have been developing, and the IRP does not account for the significant potential for cost effective market transformation available through behavior based strategic energy management for businesses and continued energy improvement for industries.

In order to fully realize the potential of the Board's innovative program and financing strategies, the funds' programs need the next two years to fully develop and implement.

Thank you for the opportunity to provide these observations and initial comments, and, once again, after our meeting on the 17th, we'll have a finalized report for you.

CHAIRMAN CASSELLA: No comment.

MR. GORDES: Absolutely no comment.

(Laughter)

MR. GAUDIOSI: Thank you.

CHAIRMAN CASSELLA: I think that the main observation is there's a disconnect between the IRP that the EDC submitted as far as the programs are concerned versus going wider and deeper and what that means, but I just checked with our consultants, and we are looking at how to broaden that situation. Okay. Richard Legere?

MR. RICHARD LEGERE: Good afternoon. My name is Richard Legere, and I'm not sure exactly how to introduce myself, but I'm a Suffield resident, I'm a part-time farmer, and the Executive Director of a local group in Suffield, who are trying to get the Greater Springfield power lines built responsibly, in a way that is a win-win

for everybody.

My comments today, I guess I should say I just have some bullet points to talk about. I'm going to speak extemporaneously, but if you want me to put that in writing and send it to the CEAB, I will.

The perspective I wanted to share today is I spent the last two years at the Docket 370 proceedings, which, to me, when you're talking about the IRP and all of the energy planning, is sort of the choke point, or the point where the wheels come off the wagon, so to speak, in all the good work that's trying to be done.

As a brief update on the GSRP, the draft is out from the Siting Council, and they're approving the GSRP, approving it as an all overhead project, and they're rejecting the Meriden NRG power plant.

At the proceedings, if I had to pick one paragraph out of the testimony of about six months' worth of testimony, the thing that really highlights I think what the problem is was a question asked of the ISO New England experts by our attorney, and he asked them basically this question.

What, in your opinion, is our New England grid going to look like in the next 30 years? And kind of pausing for everybody to think about it a little bit, but

the answer was exactly the same as it is today.

So with all of the problems and all the things that we're trying to address that are highlighted in your report, when the rubber meets the road, when it comes down to what happens at the Siting Council, what infrastructure investments are built, how capital is deployed, it's going to be pretty much the same as it was in the 1960s and '70s, 30 years into the future.

There's not anything happening that addresses the problems that really should be addressed. One of the issues I think that happens at the CSC and to be I guess pretty blunt about it, it seems to me, from a citizen's perspective, as someone who will be impacted by their judgment, to be a very dysfunctional and counterproductive process, in that -- and I'm probably preaching to the choir a little bit, because I know what happened with your agency and the Office of Consumer Council, how they were treated adversarial, rather than being listened to as a peer agency, trying to basically, you know, follow Connecticut law and uphold the will of the legislature, but what happens is, I think, my personal opinion from observing it, is the administrative proceeding process and how the proceedings are conducted allows CL&P's attorneys, who, quite frankly, I have to

give credit where credit is due, are very, very brilliant at what they do, allows them to narrow the focus of it to restrict the proceedings, to eliminate and exclude a lot of information that I think has a material and productive impact, and they're able, basically, to shape the playing field exactly how they want to get the outcome that they want.

I will give you a few examples. The GSRP is part of the NEEWS portfolio projects that they have. In prior CSC dockets, 217, 272, Meriden, Norwalk, etcetera, Bethel, legal arguments were made to consolidate everything, look at it in total, look at everything that was going to be built holistically. I think, and I think the CEAB, if I remember correctly, shared the same position, that NEEWS should be looked at holistically in total all of the impacts, but it isn't.

CL&P is allowed to pretty much dictate how the little play is going to unfold and what the final act is going to be, and the problem is, as I wrote in our legal brief using sort of a very simple Hemmingway-esque analogy, is that they're selling us a car one wheel at a time.

We're buying the GSRP wheel. We don't know the final end result of our purchase. We don't even know

if we're going to like driving the car, but if we don't like it, the only way that we can return it on the no refund policy is to absorb probably the GSRP's 2.5 billion in stranded costs.

I mean once it's built, it's there. You can't do anything with it. Following up on the, just to kind of finish that thought, one of the problems with the GSRP, in particular, for Connecticut is the majority of the problem and the majority of the fix and the majority of the money to fix it is fixing Springfield. The Connecticut portion is sort of the 80/20 rule.

I had lunch towards the end of the proceedings with NRG's attorneys on the Meriden power plant project, and they were saying they were feeling hopeful that maybe the ultimate solution would be for the GSRP line in Massachusetts to come into place. That allows the Mass. Electrical Co-op, MLEC, to, basically, if you build it, they will come sort of thing. They need a power line. They need to be able to qualify for the capacity auctions at ISO.

Once MLEC comes on line, there's new generational, or MLEC III to be accurate, there's generational capacity to fix Springfield's problems, and one of the options that we wanted to look at was could you

do that, add the 345s in Massachusetts, upgrade/fix the 115s in Connecticut with new -- or Stat Com(phonetic) technology, and then, also, approve Meriden to provide generational, additional generational capacity.

CHAIRMAN CASSELLA: Okay. Could you wrap up your comments, please?

MR. LEGERE: Sure. In Connecticut, but that option never really got off the table. The CSC refused to look at any type of combination option like that.

One of the problems with it is, in order to socialize the costs, the FERC requires 345 kb lines or higher to socialize the cost, so it's kind of this big convoluted maze of regulations that prohibit what, you know, is probably a better result for Connecticut in long-term.

CHAIRMAN CASSELLA: I think you've expended your time.

MR. LEGERE: Sure. I just wanted to say, I guess in a closing comment, on page 25, I wrote down the quote that extreme policy changes are necessary in order to really do something productive and move things forward, and I'm not quite sure how it's accomplished, but I think the end result, or maybe the starting point and the end

result, is to fix, in part, the siting process of how things are looked at and considered, because -- I got two more sentences.

The Docket 370 was basically the result of the CEAB, where it was the first time a transmission and generation project were viewed together. I personally would like to see what the opinion of one guy is worth.

All the things that were talked about today were, whenever something comes before the Siting Council, that conservation DSM transmission generation are all looked at holistically, and that an outside consulting firm is the person that looks at it.

CHAIRMAN CASSELLA: I think the problem, and we'll have to stop this for now, the problem is a timing issue, and I think, if you're going to do that analysis when you're at the Siting Council, you're way too late. Go ahead, Joel.

MR. GORDES: I would agree that it's partially a timing issue, Mr. Chairman. I'll also say that I was the antagonist participant in Docket 346 in front of the Siting Council, and you sound like a recording of myself. (Laughter)

MR. LEGERE: I'll take that as a compliment, I hope.

MR. GORDES: Dysfunctional, narrow, non-holistic --

MR. TIMOTHY COLE: Who, you?

MR. GORDES: No, not me. (Laughter) And it was a security docket, and it looked at how they look at different things, particularly things like transmission, but the point is this seems to be a recurring pattern in some ways.

COURT REPORTER: One moment, please.

MR. GORDES: And while there are some very excellent members, it seems that the process is just not geared to look at things for people who may be wired a little bit differently in their thought patterns.

And the point is, looking at it holistically as a complex system is what is missing. They're saying, oh, here's a transformer here, here's a generator here, here's a transmission tower, but if I've used the word holistically once, I must have used it 15 times in the many documents that were submitted, but it's not within.

The only thing I can say is the warning did go, and I said they should be gathering more expertise in what the topic was, which they didn't want to gain any expertise in, and this was voiced by members, because DEP

could very easily take over most of their types of functions if we have a really bad budget deficit, and I said that to them, but that didn't seem to register.

CHAIRMAN CASSELLA: The last thing I think we can say on this point is that there is a transmission workshop on February 19th, which CEAB is sponsoring, and it's going to be at CERC in Rocky Hill, and it's intended to take up this exact situation. How do you solve these transmission planning issues before they become an issue or a problem? So I would highly recommend you come to that, as well.

MR. LEGERE: If I haven't worn my welcome out, I'd be more than happy to go.

CHAIRMAN CASSELLA: If Joel hasn't worn his welcome out, you can't.

MR. LEGERE: I'd like to say I wish I could come here with a solution, rather than just indicating the --

CHAIRMAN CASSELLA: Well I think that's part of the mission for the 19th, because the note I had is how would you fix the process, so, you know, come with some ideas on the 19th, okay?

MR. LEGERE: And, last, just thank you for the opportunity to come before you and speak.

CHAIRMAN CASSELLA: You're welcome.

MR. COLE: I would just second Michael's last comment, that if you can sort of think about what the charge to the CEAB is and think about -- I mean think about this issue of what solutions you would recommend. It would be really helpful, because I think we all, just sort of on a very deep level, agree with you, that we need a much more holistic approach.

And you made the point, all the strategic thinking we're doing here is going to be worthless if we can't change the system by which any of it is implemented, but you've been working hard on it, so if you have some ideas about solutions, bring them.

MR. LEGERE: I will. Thank you.

CHAIRMAN CASSELLA: Thanks, Richard. Next up is Bob Keen, representing Bob Keen, representing the public.

MR. BOB KEEN: Hello. I'm Bob Keen, a private citizen from Simsbury, Connecticut. I've spent 38 years working in the power industry, including a couple of years at the University of Wisconsin's Institute for Environmental Studies, assessing alternate ways and meeting their state's energy needs, five years at Northeast Utility in the Wholesale Power Group, which

assess power costs and how we go about meeting our needs.

The thrust of my comments is along the lines of the first speaker highly endorsing that we study nuclear, but I'd also like to point out the costs of the other options we're talking about here, too.

In general, when we talk about renewables, we very seldom hear about the costs, and there are studies, the IRP and the ISO studies, that are ongoing right now drive home what the costs are of going with those options.

In general, the renewables are costing somewhere between two to 13 times the cost of conventional sources, and it gets more costly as you increase the percentage of energy from the intermittent renewables, due to the increased transmission and storage requirements.

The solar photovoltaic that Connecticut recently has installed costs about $1.10 a kilowatt hour, or 10 to 13 times the present generation costs, or about eight to 10 times the cost of a new nuclear plant.

The ISO New England 2030 wind study, which tries to install a 23 percent renewable wind energy, costs about 80 billion dollars, and you could replace that with about 20 billion dollars' worth of nuclear stations, or about a three to four cost ratio, also.

And the ISO wind study is not without it's own environmental impacts. It requires 42 hundred circuit miles of 500 to 765 kb transmission lines. Now the maximum transmission line in New England right now is 345, so you have a greater visual impact than you do with the current ones, which would take about 100,000 acres.

This line encircles New England. It goes around the suburbs of Hartford, through the suburbs of Boston, up the coast of Maine, back down the mountainside of Maine, into Vermont and New Hampshire, something which I think will be very difficult to build in the current political environment.

It also calls for 5,000 megawatts of pump storage, which basically means taking off five mountaintops. And the pump storage area would be bigger than Northfield Mountain, because you'd have a larger storage requirement of the Northfield Mountain.

Northfield Mountain is typically an eight-hour production capability, and for wind you'd need something like five days, or 15 times the amount of storage, and that's not all the cost impact. Because the pump storage can't handle all of it, it calls for two and a half million cars to be electric at about a 20,000-dollar premium or about 50 billion dollars additional,

and, also, for the conversion to electric heat in Maine, so the costs keep mounting up. It gets more and more expensive the more you try to do.

One study of the Waxman CO2 bill were done by the Department of Energy, and they took the approach that in order to minimize the damage to the economy, the power sector has to do more than its share of the CO2 reduction.

In order to do that, you can't have renewables. The DOE study does not utilize intermittent renewables, like wind and solar, as they only reduce CO2 by 30 percent and 12 percent, respectively.

The DOE relies on nuclear and coal with carbon capture and storage and has reduced CO2 by 90 plus percent, and that's the only way you can get the CO2 levels down to low levels, without doing maximum damage to the economy.

For my recommendations, I would suggest that we only become part of the ISO New England wind study if it expands its scope to include nuclear and other options, as the wind costs four times nuclear and requires huge transmission build out.

I also think we should recognize that nuclear is by far the lowest cost and most environmentally

friendly solution that does the least damage to the economy and with the most high paying local jobs.

We should allow it to satisfy the renewable requirements, like in France, and we should also repeal the state law that outlaws nuclear at the present time. Thank you.

CHAIRMAN CASSELLA: Thank you, Mr. Keen. Questions? Mr. Gordes?

MR. GORDES: One question. What was the basis for your cost of photovoltaics at one dollar per kilowatt hour? What were you using for inputs, or what source did you have?

MR. KEEN: The actual cost of 10,000, which came out to be 10,500 dollars a kilowatt.

MR. GORDES: That's a pretty old cost.

MR. KEEN: That's the cost of the ones that were just installed.

MR. GORDES: Where?

MR. KEEN: In Connecticut.

MR. GORDES: You can get them lower than that.

MR. KEEN: You can now, yes, but that was the cost.

MR. GORDES: Well that's what I'm saying.

You can get them lower now. That's exactly the question I asked. What's the basis for the one dollar, and it wasn't the cost that we are at right now.

Now this is a very anomalous year, because the price worldwide of photovoltaics has fallen, due to a glut in Spain, but we have been on a downward path, except when there was a worldwide shortage starting in 2004 of polysilicon. That has been sort of relieved, and we are backward on the downward path right now, but the price that is at the 10,000 level, when we're probably closer now -- Dale, are you here? About, what, 65 hundred, 7,000?

DALE: That's about right.

MR. GORDES: Now before you put something like that in public for the now, you should be using a now figure.

MR. KEEN: That was from the presentation that the CC -- made within a few months ago, so I don't know.

MR. GORDES: That's not a great figure either.

MR. KEEN: The point I'm at is that, you know, you could even give away the photovoltaic part of the system and say the cost of that goes to zero, and

you'll still be at three to four times the cost of alternate sources.

MR. GORDES: When you say alternate sources --

MR. KEEN: Or maybe existing sources. Excuse me.

MR. GORDES: And which sources are you specifically talking about, specifically?

MR. KEEN: Combined cycle gas turbine.

MR. GORDES: Okay.

MR. KEEN: Or the existing -- I mean you're talking --

MR. GORDES: With gas at what price, in the IRP price?

MR. KEEN: You could use the IRP price, where it comes out to -- yeah, that will work. When you have a three and a half cent variation, when the costs are so much higher, you're going to invade the little nuances here and there, but you're in a different ballpark.

MR. GORDES: But part of it is you're talking, you know, again, the generation price, and the generation price is one thing, but under the bid system that we use with the ISO, even the lower cost nuclear plants still are going to be given the marginal cost, so

what does that matter in this sort of scenario?

In other words, they can generate let's say a two cents kilowatt hour, but they're still going to be making 12 cents a kilowatt hour, and, at the end of the day, or I should say the end of the month, I'm going to be paying the 20 cents per kilowatt hour.

If we stay under the bid system, rather than a cost of service, how am I benefiting as an end use consumer?

MR. KEEN: You'd have more capacity. Well you're in a scenario -- the IRP ran a scenario for increased nuclear and the costs came down. Even the lowest cost scenario is in the IRP, and the reason is it displaces the gas generation, and you have less high priced gas generation.

CHAIRMAN CASSELLA: Tim?

MR. COLE: I guess I have sort of a comment, a couple of comments and a question. The couple of comments are I mean I come into this conversation, probably because of my age, skeptical about nuclear, and yet I have been saying for quite awhile that I'm in the kind of show me mode, and I'm listening hard, and people making cases for nuclear are people that I'm listening to and trying to see whether all my concerns, you know, waste

disposal being a huge one, can be dealt within a responsible way, so that's one comment.

The second comment is that there are parts of the world, where huge progress is being made in achieving that meeting energy needs, using energy incredibly efficiently, holding costs down, without using nuclear, and I'm wondering if you've given a lot of thought to that, and then I have another question after.

MR. KEEN: Yeah. I don't cover all the areas, but, in general, I think I'm all in favor of reducing our demand in demand side management and energy conservation. In fact, the way I interpret the IRP is that you basically have enough capacity in the state, so the lowest cost scenario is basically do nothing, except demand side management, and it's only because you have to meet the renewables requirements that you have to spend 30 percent more, and that was the opening comment in the IRP.

And when you look at that and the scenarios they ran, the nuclear was the lower cost option, with less emissions than renewables, and the reason is the renewables require a backup of gas turbine or some of the less efficient plants and more CO2s.

MR. COLE: And I understand those considerations, and Steve's comments, about meeting a

diversified approach, is also something that I'm sort of keeping in mind.

MR. KEEN: I'm in favor of the lowest cost solution, not necessarily the nuclear solution.

MR. COLE: No, I hear you.

MR. KEEN: And I think we have to be very careful about the costs that are coming down the road with some of the renewable scenarios, because when you're trying to do it on a large scale, the costs become very transparent.

MR. COLE: Understood. My last question, observation, I wish I had printed it out. I saw yesterday that Pew Trust Environmental Group just put out a study, talking about the trillion-dollar scale of what's happening with the melting of arctic ice by 2050.

We're going to be talking about costs to society on the trillion-dollar scale from doing what we're doing, and it leads me to a question that I keep having, and I don't hear us putting into the conversation, and I don't see -- I guess I haven't had the time to kind of really do the legwork and find out what's out there, in terms of research, but I'm not hearing it in the conversation, and that is the cost of not doing things.

It always makes me nervous when we get into

a conversation about this is going to cost this, and this is going to cost us less, because, typically, we're looking at fairly short timeframes in comparing those costs.

The costs that you're comparing, you know, I'm willing to take it at face value that, you know, you've done the math, and that if we're talking in the next 10 years, you know, it probably looks roughly like you say it does.

I'm willing to take that for the sake of argument, but when we now open the conversation to include the cost of not doing anything, so that the math is this versus that, it's whole different conversation. I wonder if that's a conversation that you've been at all involved in, or have thought about.

When you make an argument on the basis of cost, are you including the cost of not doing things?

MR. KEEN: Yes, I have. I mean the issue here we talk about nuclear versus renewables, nuclear has zero CO2 emissions, if that's the concern with the ice melting, and, so, it has actually less emissions than a renewable scenario, again, because the renewable requires a backup, or maybe you could say that the renewables interrupt the gas turbines, since the gas turbines run

more than the renewables. In any event, you still have emissions.

If you want to get to the scenario of doing nothing, I guess then you have to say what is the cost on both sides of the equation, and you also need to make sure that what you're stopping is really the cause of the problem.

There's a lot of debate. I'm not one to talk about the ice in the arctic, but there are people that say the ice in the arctic is due to the pacific oscillation and the warm water going up and melting the ice, not necessarily due to the CO2, but that's not my area.

MR. COLE: So that's not an argument --

MR. KEEN: Yeah.

MR. COLE: -- I'd want to go very far with.

CHAIRMAN CASSELLA: But to speak to Tim's question, you're saying the amount of carbon that nuclear emits is not going to complicate his equation. I mean it's not that I exacerbate the trillion-dollar situation.

MR. KEEN: I mean there's probably three choices here. One is do nothing, in which case the concern about are you going to cause some damage down the road exists. The lowest cost solution appears to be

nuclear, and you have the wind solution, which is coming in at three to four times the cost of nuclear.

CHAIRMAN CASSELLA: And has a carbon component.

MR. KEEN: And still has a carbon component.

CHAIRMAN CASSELLA: Thanks, Bob.

MR. COLE: Thanks.

CHAIRMAN CASSELLA: It's not that I'm going to massacre this name because I can't pronounce it. I just can't read it. Letty McPhedran?

MS. LETICIA McPHEDRAN: You did very well.

CHAIRMAN CASSELLA: Thank you.

MS. McPHEDRAN: I'm Leticia McPhedran from the North Haven Clean Energy Task Force. I speak for the North Haven Clean Energy Task Force, as well as myself, and I speak in support of increased investment in regional wind and in state solar energy.

We support the All Cost Effective Efficiency Strategy to invest an additional 65 million per year in energy efficiency. This investment would reduce dirty megawatts and reduce customer costs by 402 million annually.

These dollar amounts were provided by the

Connecticut Fund for the Environment, and I just accepted their analysis and research. Reduced customer costs would help us in North Haven find householders who would sign up for clean energy on their energy bills.

We are working to support a clean energy future in North Haven. Our Selectman, with the cooperation of the Energy Efficiency Fund and U.I., provided that half of our town street lights were changed to lower wattage. All light bulbs in our schools were changed for energy efficiency. Our Task Force has signed up nearly 300 clean energy customers in three years and earned solar panels from the state.

Many households here have spent the money for energy audits through the Efficiency Fund. Our Task Force has hosted two clean energy forums, each of which 50 to 80 people attended, and we've done some work telling people about the great programs our state has.

We ask you to help build a Connecticut solar industry by supporting solar energy production of at least one percent of Connecticut's total energy use, especially since the accident at the Kleen Energy Plant in Middletown.

We need your strong recommendation to maximize investment in energy efficiency and renewable

energy as the safest and cleanest forms of power, and we hope that you'll become leaders in this effort. Thank you.

CHAIRMAN CASSELLA: Thank you. Any questions? I guess I have one, Leticia, if it's okay. I actually read a lot of the comments, and they come -- they center around things that we've heard before, and there weren't a lot of new ones, but, generally, one that keeps coming through is that people are for clean energy, and they're for the maximum achievable DSM, but I'm having a hard time figuring out how you do that and whether people are sensitive to the cost implications, which was the conversation that we were just having.

The IRP says, basically, if we need the RPS in 2020, it's going to add four cents to the residential rate, four cents to rates, and that doesn't count the two and a half cents that the ISO is going to be adding between now and 2015, which is going to just keep going up, so the question is can we afford to do both?

And I don't think you can't afford not to is a good answer. I'm just thinking that's the answer that comes into my head, but that's the thing that I'm personally wrestling with. I'm not speaking for the committee.

And it goes back to that three-fold question that we have before us all the time. How do you mitigate impacts in the environment and cost and maintain reliability and security? I don't know the answer, but that's my question. I'm not asking you to answer it.

MS. McPHEDRAN: I appreciate your comment.

CHAIRMAN CASSELLA: Thank you. I'm sure somebody out there is going to want to answer that before the day is over. Okay. Next up is Natalie Hildt.

MS. NATALIE HILDT: Good afternoon. I'm Natalie Hildt, and I'm here representing Northeast Energy Efficiency Partnerships. We are also known as NEEP, and we are a regional non-profit that promotes the efficient use of energy in homes, buildings and industry in the northeast.

We advance cutting edge products and practices through coordinated whole building efficiency programs and policies, so I'm pleased to offer our comments. They're a little bit truncated from the written version that I submitted, but you've got those on the website.

First of all, Connecticut's utilities operate under the mandate of Public Act 07-242, which requires them to procure all Cost Effective Energy

Efficiency before conventional power generation to meet new demand.

It's NEEP's belief that the 2010 IRP and its recommendation to pursue the targeted expansion scenario for demand side management, rather than the all achievable cost effective scenario, falls short of the spirit of this legislative mandate and would forfeit opportunities for the state's energy customers to maximize the potential benefits of energy efficiency.

We agree with the IRP's finding that while Connecticut has been a leader in DSM, there is much more room for expansion and improvement. This is true in terms of savings goals, coordination of programs and improving the evaluation, measurement and verification of program impacts.

That is why it is so important for the state to stay on course with the continued ramp up in energy efficiency investments.

And, incidentally, I couldn't come here without mentioning the concern shared by some of you and many here in this room that Governor Rell is contemplating another rate on the efficiency programs to bridge the budget shortfall.

I cannot overemphasize how troubling this

prospect is to the future of the state's efficiency efforts and to its residents and businesses. Such a move would be extremely damaging and short-sided, and, as we know, for every dollar invested in efficiency, the benefits can be three to four times as great.

Connecticut is the only state in the region contemplating such a rate, and, of course, we're all facing tough economic times, so it's hard to believe that this is happening while you all here are trying to figure out how best to deliver on the promise of energy efficiency.

To Chris Halpin's point earlier, I'd like to mention that it's economically critical that Connecticut keep energy efficiency stable and in parity with surrounding states, so that the businesses and energy efficiency sector, like Chris and others, will be confident of their work prospects and not go elsewhere, and homeowners, businesses and industry can plan their energy upgrades knowing that the ratepayer funds they've paid into will be there when they need them.

Finally, if Connecticut were to divert energy efficiency funding to the general budget, the resulting loss in energy savings would change the region's load share, which in turn could drive up transmission

costs, since you have the most constrained areas in New England.

So whether we're talking about rating funds or pursuing only a moderately -- an overly conservative investment strategy, which is what we see as the targeted plan, by not capturing All Cost Effective Efficiency, you'd miss the chance to alleviate constraints on the grid, and you'd sacrifice potential economic gains since robust efficiency programs create jobs and put money back in people's pockets to spend on other goods and services.

Furthermore, if the state doesn't protect and ramp up efficiency budgets, carbon dioxide and other air pollutants that could have been avoided will be generated, undermining Connecticut's goals to reduce greenhouse gases and create a cleaner environment.

I won't go through all my comments at length, but I do want to hit on some of the high points. Regarding the rate versus bill impact, we don't believe that the IRP delves deeply enough into this issue, and we're glad to hear, Jeff, that you are going to be looking at that more closely.

True rates would increase nominally in the short-term under either scenario, but, overall, energy costs would likely decline with substantial permanent

reductions in overall load curve, and this so-called Demand Reduction Induced Price Effect, or DRIPE, has the potential to drive energy costs down for participants and non-participants alike, and we think that Connecticut might do well to look at some of the examples of other states.

I've sat in on a lot of meetings up in Massachusetts, where they have, you know, evaluated the situation and determined that overall the rate impacts would be nominal.

And now I'd like to touch just briefly on some of the targeted DSM approach, four areas on the energy efficiency programs. We generally are in support of these. They're a construction of zero energy new homes, residential cooling, commercial industrial applications and CNI chiller retirement.

NEEP consistently supports holistic approaches to energy savings, including renewable ready projects, like the zero energy homes would advocate for holistic and, also, multi-fuel, so we think the zero energy is a laudable goal.

A lot of other states are looking at this, but, again, new construction is only a small part of all homes built, and to hit 600 homes over 10 years would only

be a fraction, so that together with this exciting initiative we would encourage the state to focus on existing and, also, more typical homes and buildings, strong energy code training and enforcement, automatic updates to match national model energy codes, such as the IECC and ASHRAE standards, ability for communities to adopt an informative appendix or stretch code, development of building energy rating and disclosure policies and the continuation of the tried and true utility incentive programs are key to ongoing savings.

So, again, we support a whole building and all fuels approach, so, to that end, the Residential Cooling Program and the CNI Chiller Retirement could stand to make great gains in reducing summer peak loads.

So on to appliance efficiency standard. This is certainly an area where NEEP has worked closely. Connecticut has a history of joining neighboring states in setting higher efficiency standards on appliances where there is no federal preemption, and we urge the state to consider it again in 2010, particularly with regard to televisions.

That would bring Connecticut in line with New York, Massachusetts and Maryland, and considering TV standards this year, hopefully to be joined soon by Maine

and New Jersey, as well.

While Connecticut has made gains through efficiency and maintains a leadership position in the nation, it stands to fall behind the pack by not pursuing broader and deeper energy saving strategies.

Robust, integrated and customer focused efficiency programs, together with aggressive policies that target building energy and appliances, must go hand-in-hand to maximize the efficiency potential. Furthermore, we encourage the DPUC to allow the gas and electric utilities to direct resources towards behavioral solutions to saving energy.

This should include education, operations and maintenance training, and feedback on how these best practices can drive down energy costs and use for residential and business customers.

We urge the state to aspire to the goal of capturing All Cost Effective Energy Efficiency, all efficiency that is below the cost of new generation, and to guard against any myopic attempts to raid these ratepayer funds for non-efficiency spending.

Maintaining and improving efficiency programs will deliver benefits to ratepayers, regional system reliability, the state's economy and the global

environment. Thank you.

CHAIRMAN CASSELLA: Thank you. What is NEEP doing relative to new technology, specifically Smart Grid?

MS. HILDT: Well NEEP typically operates on the customer side of things, of the meter, so we are sort of peripherally involved. A lot of our sponsors -- and, again, NEEP is a non-profit organization. We're funded in part by utilities, including CL&P and U.I. here in Connecticut by federal and foundation grants, so most of what we're looking at is the policies and technologies.

We do work on the upstream market transformation with some of the more cutting-edge technologies, but this is going to be more along the lines of building equipment, so we are looking at some of that.

Frankly, I think that it's an important part of managing the overall power grid system reliability, managing load shifts and blackout and that sort of thing, but it's a part of it, so I think it's going to be something that we're all seeing, that and, also, combined heat and power and other initiatives.

NEEP actually changed its mission a few years ago to not just talk about promoting energy efficiency, but the efficient use of energy, so that could

include renewable ready smart grid technologies to combine heat and power and that sort of thing.

CHAIRMAN CASSELLA: Thanks.

MS. HILDT: Thank you.

CHAIRMAN CASSELLA: Thank you. Next up is Jessie Stratton from Environment Northeast.

MS. JESSIE STRATTON: Good afternoon. Environment Northeast submitted extensive comments on January 25th, and I will not revisit all of those, but we do appreciate the opportunity to comment again, and since those comments really address a multiple of issues, I am going to limit my oral comments today to the part of the plan's recommendation to pursue the Target Efficiency Strategy, rather than the All Cost Effective.

First and foremost, I would say that that strategy does not fulfill the statutory mandate of Section 16a 3b or Public Act 07-242, whichever way one wants to refer to it.

And I know you all are very familiar with what the directive of that is, but it's not a goal. It says that resources shall first be met by. The wisdom of this policy becomes abundantly clear when one looks at the IRP's analysis of the relative costs and benefits for all Connecticut residents of the plan's All Cost Effective or

ACE Strategy to those of the target strategy.

The benefits of the All Cost Effective Strategy far outweigh those of the target one in each of the following analyzed categories, energy costs, resource demand, cost of meeting the state's renewable portfolio standard and progress towards meeting federal and state environmental standards.

Specifically, the All Cost Effective Strategy saves consumers 423 million dollars a year more than the reference of current investment level, an additional 314 million over the recommended target strategy.

In addition, those larger savings become available for consumers to spend elsewhere in the state's economy, rather than being sent out of state to buy fossil fuels for generation.

As a result, ACE contributes 5.6 dollars to the gross state product for every dollar invested in efficiency. For the ACE Strategy, that translates into a half billion dollar increase in gross state product every year.

Those efficiency investments also create jobs, as been noted, but mostly those were noted, the ones that are directly in the delivery of energy efficiency

services, but they are far more significant in the wider economy, because the money consumers save on energy bills is redirected and creates jobs in other sectors, also making the state more competitive.

Actually, the correlation between those is really a result of research that ENE did, which we attached that report to our earlier comments, but for every one job that Mr. Halpin was talking about in the energy efficiency field funded by energy efficiency investments, we create five or six jobs elsewhere in the economy, because of the savings that customers have on their bills.

Today, while always important, those 36 hundred additional jobs created by the All Cost Effective scenario become even more significant in today's economy when the state has very few job creation opportunities and certainly none that are essentially no cost.

Concerns also are expressed by some over the uneven utilization of efficiency programs that you were getting at, Jeff, and the customer classes also supports the All Cost Effective expansion over the target investment proposal.

The target strategy would only increase program offerings in four high return areas, thereby

limiting the number and demographics of the beneficiaries.

Implementation of residential air conditioning, new construction of zero energy homes, replacement of large industrial commercial chillers and other high potential commercial measures, while beneficial, would shortchange small businesses and low and middle income customers, because the target strategy does nothing to expand the programs that are available to all customers.

In addition, the limited nature and duration of those four targeted measures would not provide the long-term consistency or certainty of program investments that is critical to maintaining the energy efficiency service industry in the state.

And, particularly, as you were noting, Mike, as neighboring states, like Massachusetts, are dramatically increasing their long-term commitment to expanded efficiency programs, I don't think Mr. Halpin is going to be hiring people from Massachusetts. I think it will go the other way.

We have repeatedly seen business customers and contractors become frustrated and jobs leave the state when political actions have reduced or threatened, as they are once again, the level of funding for these programs.

On the other side of the balance sheet, the major rationale for the target recommendation seems to be that it results in a very minor rate decrease for all customers, including non-participants. It is important to view that, quote, "savings" in terms of the minute difference in rates between the target and the ACE strategies and the much larger savings on bills under the ACE scenario.

As illustrated in the IRP, that difference in rates is less than two-tenths of a percent, two-tenths of a cent, sorry, or roughly 90 cents a month for the average customer.

Put another way, though the absolute rate impact per kilowatt hour under ACE may be a tenth of a cent or so higher, the average bill savings for a customer under the ACE scenario is eight dollars, because they buy less energy.

And, importantly, while not all customers may choose to participate in the programs, the expansion of all program offerings that would occur under the ACE Strategy means that over time more and more customers will become participants.

In addition, the very limited participation more than offsets any small increase in rates. As a

matter of fact, a customer, who purchased just one single subsidized compact fluorescent light bulb to replace an incandescent one will save far more energy in their energy bill in a year than they pay as a result of the less than two-tenths of a cent increase in their rates.

In accordance with the statute, the IRP also evaluates the environmental costs and benefits of the two strategies, and, once again, the ACE Strategy not only achieves far greater reductions of criteria pollutants in CO2, but by reducing the demand lowers the amount of renewable generation needed to meet the RPS.

While human health is the obvious beneficiary of reducing NOx reductions, non-compliance with ozone standards, again, what is the cost of not doing these things, would also cost the state hundreds of millions of dollars a year.

In sum, we really urge the Board to recommend the All Cost Effective Strategy investment, rather than the target strategy, in order to conform with state law, provide all classes of the state's electric customers the much more significant energy cost savings, environmental benefits and avoided costs and the wider economic and job benefits that the All Cost Effective investments would deliver. Thank you.

CHAIRMAN CASSELLA: Thank you. Any questions? I got a couple, and they're real questions.

MS. STRATTON: Yes.

CHAIRMAN CASSELLA: I don't know the answers to these.

MS. STRATTON: And you think I do?

CHAIRMAN CASSELLA: They're not for the record. How do you get that All Cost Effective is what's intended in Section 07-242? I mean I have it in front of me, and I think it's a reach, which is okay, because I'm willing to make that reach, and I think we're trying to get people to make that reach, but I'm just curious.

MS. STRATTON: Two things. I think, if you look at both Subsections B and C, the first one says, you know, shall meet the state's energy needs through all available energy efficiency and demand side resources that are cost effective, reliable and feasible, and then C says resources shall first be met through all available efficiency and demand resources that are cost effective, reliable and feasible.

And the ECMB determines what is cost effective, what costs less than new generation. It's basically a loading order, very much like California has.

CHAIRMAN CASSELLA: Yeah, but how do you

define need?

MS. STRATTON: Need is combination of capacity and resources, and if you read the statute, it says, I mean, that's one of your charges, one of the IRP's charges, to determine both, and, as has happened in recent years, after a lot of hard work, ISO and others now recognize efficiency as a resource.

CHAIRMAN CASSELLA: Okay and then the next question I had was having to do with the participants. Well, actually, having to do with the cost. Is it conceivable that you could do the All Cost Effective without increasing the system's benefit's charge if you got sufficient and ample financing or other people's money into the mix?

MS. STRATTON: Yes, and I think certainly the ECMB and the legislature are looking at other ways of providing that income. One of my biggest fears, and I guess I can say it in this room, but I don't want to give them more SBC charge to rate, and it becomes very, very frustrating, particularly as someone who is involved in creating that, to see how it has been manipulated and used.

So, yes, I think we should look at other options, but I think, fundamentally, the law says that

we're going to spend -- nobody seems to argue about spending that money on the generation resource, and everybody pays for that, both in their rates and in their absolute use, and when you start to talk about the miniscule differences in rate between the All Cost Effective and the targeted, they actually vanish when you look at the fluctuation in the resource price, in terms of generation.

CHAIRMAN CASSELLA: How do you sort of measure the number of participants? I mean you just mentioned that one person with one bulb basically recovers the cost of what they pay in.

COURT REPORTER: One moment, please.

CHAIRMAN CASSELLA: One of the numbers I've heard as part of this whole process is 90 percent of the ratepayers in Connecticut have purchased at least one CFL.

MS. STRATTON: I would guess that might well be true. We actually have been working with both U.I. and CL&P to get figures, and the participation rate is certainly far higher in the CNI customer class, but I think the point becomes that the longer these programs continue, the more they are accessed by people of all customer classes, and we're starting to do a much better job of marketing them, etcetera.

CHAIRMAN CASSELLA: I think the participation rate in CNI is about 50 percent to date.

MS. STRATTON: Yeah, and, again, I'm not sure how, you know, as you ask, is that utilizing anything, or is that doing something as significant as home energy solutions or something, but, certainly, you know, most people have bought the CFL.

CHAIRMAN CASSELLA: Most people have been given CFLs.

MS. STRATTON: Or given one, right, and then the cost is absolutely nothing.

COURT REPORTER: She's not going to be on the record.

CHAIRMAN CASSELLA: You need to get to a mike.

MS. HILDT: Sorry. In Massachusetts, Energy Efficiency Advisory Council has, and the utilities involved, have done extensive study of this bill versus rate impact, and I can forward along a PowerPoint to you all, if that's helpful, to see how they evaluate it.

CHAIRMAN CASSELLA: Yeah, absolutely. You obviously made some decisions based on some study. Okay.

MR. GORDES: One thing occurred to me, and, again, Mr. Legere brought up the word holistic earlier in

the conversation in relation to the Siting Council, and let me ask you this, too.

If we went to the All Cost Effective and some of our state mandates are not strictly on energy, but on certain things, like NOx, SOx, CO2 types of -- environmental types of goals, does ENE have any figures, specifically, of what it would take to meet those goals outside of the efficiency programs versus trying to get people out of their cars, or some other methodology to reduce those, like, in other words, make our non-attainment goals.

MS. STRATTON: You're saying to achieve the NOx or the --

MR. GORDES: Yeah. Is there some cheaper way, or are we taking it from another product? We're interested in rate pressures and such and mitigating those, but if doing it through the rate through these programs is more cost effective, rather than something else, is there some supporting evidence of that?

MS. STRATTON: I don't know of any specific analysis, Joel, but I think, if one looks at it, and you certainly remember doing this, too, at the do-ability of reducing emissions in categories that are regulated versus trying to get people out of cars, etcetera, the

achievement of that is certainly far more certain, and the investments in mass transit that really would be necessitated to fundamentally alter the transportation experience or patterns in the state are huge, so you start to talk about 10 billion dollars in transmission, and you start to talk about billions of dollars in commuter rail lines, it would be an interesting analysis in what would be the actual results and redemptions of VMT. I don't know.

MR. GORDES: I mean for those who keep saying they're interested in cost, I think, again, we have to look at, like Mr. Legere said, the holistic cost, rather than just this bucket versus that bucket.

MS. STRATTON: Yes. Absolutely.

MR. GORDES: Thank you.

CHAIRMAN CASSELLA: Next up is Andrea Cohen Kiener.

MS. ANDREA COHEN KIENER: My name is Andrea Cohen Kiener, and I'm the Director of Connecticut Interfaith Power and Light, because Interreligious Eco Justice Network was not long enough of a name. (Laughter)

Thank you for the opportunity to address the Board today. I'm not going to be talking chapter and verse about the IRT, or about Deuteronomy, or anything.

That's my day job.

I wish to speak to the importance of sustained support for conservation All Cost Efficient Strategy. This is a win-win-win approach. It creates new jobs, but not just new jobs, new careers, new sectors of the economy, all of them necessarily local jobs and dignified careers for many.

Conservation leaves ongoing savings in its wake for every sector of the economy, residential, municipal, low-income, small business and CNI. We haven't saturated any of those markets.

It is investment with true dividends and are both social, economic and environmental. Conservation also reduces the need for future energy generation. This means avoidance of startup costs, expenses, siting battles for traditional generation.

Reducing the need for all new generation of any source, nuclear, coal, or fossil, whatever, has independent merits, reducing the need for those demands anyways, has independent environmental merits, and that should be a cornerstone of our energy policy.

Conservation efforts must be supported in a clear and consistent way. There is a bust/boom cycle that you're familiar with that is imposed by funding delays and

funding shortfalls just as the market is building, and that is devastating to the chain of supply and demand in the market, as Chris indicated to us. I want to say just one other comment about that aspect, which is the consciousness, the technology and the skill, -- the market for conservation is developing, and since the state and utility through your exegesis there has such a direct impact on the market, you really, really have to be cognizant of that.

Really, I mean there's days that I think we should just get out of the business and let market factors take their hold and do it that way, because every little move back and forth that we put out there, in terms of the parameters of what we want to support, really effects the market in a drastic way, so we have to push this. If we're behind it, we have to be behind it.

There is no independent market behind this, besides us. I think that gives us an additional responsibility.

So I just want to say one other quick comment, and that is that I think that when we talk about our energy picture, it's just so enormous that there's a tendency to sort of think about transmission projects and large sources of generations. There may be sort of a

natural disinclination to look at small projects, but what I want to say about that is that anything that's small, that's scaleable, that can be repeated again and again, that is actually large. It's a different way of looking at large.

And, so, I want to state, in closing, that a vibrant conservation policy must be the foundation of our energy spending priorities. Thank you.

CHAIRMAN CASSELLA: Thank you.

MS. COHEN KIENER: No comments?

CHAIRMAN CASSELLA: Thank you. Roger Smith?

MR. ROGER SMITH: Thanks for waiting for me. My name is Roger Smith, and I'm campaign director for an Environmental Non-Profit Clean Water Action. We have 25,000 Connecticut members, and we've worked on energy related issues in Connecticut since 1998, when we started working on the issue of the "SootySix" power plants.

I'm not going to read from my testimony, as you have it before you. I'm just going to try to hit some of the main points in maybe a slightly different manner.

The first one is that we ask you to fully fund the All Cost Effective demand side management strategy, as others have talked about. We think that this

is the strategy that the statutes call for, and when we look at the environmental impacts, including NOx and greenhouse gas emissions, it actually reduces them at negative overall cost. You can't do that any other way.

As Section 216 report states, All Cost Effective Efficiency would mean a savings of over 400 million dollars per year in customer energy costs, and it would be foolish to leave any of that money on the table.

I actually spent a good amount of my time at the DPUC and at the UCMB trying to help improve our energy efficiency programs in a way that increased customer participation.

There's a tremendous amount of untapped potential in small business and also in the residential sectors, and I've been frustrated over the years that people are being turned away, due to a lack of funds.

Otherwise excellent programs, like Home Energy Solutions, are limited in the number of households they can serve, and, due to budgetary limits, don't yet provide significant incentives and financing help to do deep retrofits, and this rationing mentality carries over to program planning. In recent discussions about the potential to use community-based outreach and education to get more people aware of the programs, we're creating

incentives to help residential customers afford deep retrofits. Everything is rationed, assuming that existing budgets are continued.

Home Energy Solutions helps about 15,000 homes a year to make basic energy reductions. We have over a million households in Connecticut with many old buildings, which could feasibly reduce their own energy use 30 percent or more with help.

We've got to think a little bigger, and we've got to think like New York, like Massachusetts and like Vermont. And just looking at the difference in costs between the DSM target scenario and the costs, All Cost Effective efficiency, I mean we're talking .1 to .2 cents per kilowatt hour on average, which is about 70 cents to 1.40 a month on an electric bill that's over 140 dollars.

And my two cents is that this additional .2 cents for energy efficiency is the best money a Connecticut ratepayer could buy, in terms of any energy resource.

Environmentally, if you look at the worst scenarios for SO2, for NOx, for greenhouse gas emissions, for the high electricity demand days that cause our ozone smog problem, it's pretty clear that under all those scenarios, the high load growth one is the one that we

absolutely have to avoid.

Energy efficiency is the cheapest way that we can do that and help protect the health and well being of our residents.

Secondly, I'm pleased to see that there are some clear benefits of implementing our renewable portfolio standard in conjunction with our neighboring states implementing theirs.

It describes a 40 percent reduction in coal generation, a steep decline in oil generation, that gas use overall wouldn't go up, because wind would be displacing natural gas in the wintertime. I mean this is absolutely, you know, tremendous for public health, and I really urge the CEAB to support continuing in the Class I RPS and for Connecticut to continue to work with our regional neighbors to remove regional siting barriers to wind.

I did notice that the scenario about in state renewable generation might be useful for comparison purposes, but wasn't a realistic scenario. I would ask that the CEAB not dismiss any potential for in state renewables and include a modest in state solar component, as outlined in the 2009 KEMA solar strategy, given that solar is abundant as a resource and has significant future

economic potential.

The real purpose of that work group, which I was a part of, was to figure out over the next decade what sort of strategy, what sort of scale for solar would we need to get it to a point where it can compete with conventional generation resources, and the results from that survey were that if we had over 200 megawatts of solar by 2020, which is about one percent of our overall generation needs, we would be able to get it to a point where it's cost effective and can stand on its own two feet.

And to put that in comparison, Massachusetts is right now looking at 270 megawatts. It might expand to 400. And New Jersey a couple of weeks ago just changed its RPS to 5,000 megawatts of solar by 2026.

And the real benefit to solar is that it displaces the dirtiest and most expensive peak generating power. It leverages private investment, so it's not just ratepayers that are footing the bill for these facilities. It displaces retail power, not wholesale power, it's fuel-free, and it's also rapidly decreasing in cost.

If we get the infrastructure in place now, which means customer acceptance, it means a network of installers, in the future, when it becomes competitive on

cost, we're going to see a massive ramp up in solar, and the state isn't going to have to pay for it.

And, finally, rather than spending time and energy studying nuclear power, which doesn't seem to be feasible on a reasonable time scale, I'd urge the CEAB to do a more detailed study on clean distributed generation, like combined heat and power, because that section of the IRP was among the least detailed and didn't really include detailed policy recommendations.

We also need to look more broadly at the environmental impact of nuclear. It's not just NOx and SOx. It's also long-lived radioactive waste and massive water withdrawals, which are a concern for a group like ours that has water as a middle name.

So, with that, I'll thank you, and I'd be happy to answer any questions.

CHAIRMAN CASSELLA: Thank you. Our next two speakers are Susan Olson and Sharon Voche from PACE. Now I have to tell you a dirty little secret. It's our tradition, our rule that you still get seven minutes, or whatever the amount is, so you both --

MS. SUSAN OLSON: One sheet.

CHAIRMAN CASSELLA: Okay. Just wanted to warn you. Thanks.

MS. OLSON: Hi. I'm Susan Olson. I'm honored to be speaking to the panel that will recommend the energy strategy to the DPUC for the State of Connecticut.

I'm an ordinary citizen and a Board member of PACE, People's Action for Clean Energy. PACE is an advocacy group for renewable energy, and its tours of innovative eco-friendly houses have been attended by over 15,000 Connecticut people since 1974.

I personally invite each of you to consider participating in one of the next tours on April 10th, showcasing an owner-built, zero energy challenge home in New Hartford, and, on May 15th, highlighting the first lead platinum residence in New Canaan.

My family has benefited from the Connecticut Clean Energy Fund Rebate for photovoltaic panels that provide 50 to 75 percent of our electric usage summer and winter. The panels were made in China, but the installers were all local people.

We particularly selected a company that had a track record in our area, because we wanted to be able to call on them again. If there were panels made locally, we would have liked it even better. Our panels are visible from the road, and from time-to-time we're

surprised by people coming to our door inquiring about them.

We're glad to answer their questions. We also refer them to the Connecticut Clean Energy Fund website. In this economy, solar panels represent a significant investment for our family, about what one would spend on a car, but like an investment and not like a car, we receive payback every month.

We are also participating in creating a future that we want. Of course, before making this big commitment, we examined our house from top to bottom, adding insulation, changing to lead and compact fluorescent lights and upgrading to Energy Star appliances.

Therefore, in terms of the alternative scenarios presented in the Integrated Resource Plan, I most support making the greatest possible conservation and efficiency investments and developing both in state and regional renewable energy resources. It makes sense to me.

I specifically do not agree with or support the nuclear option. The recent troublesome experience at Vermont Yankee demonstrates significant problems with this technology. In addition, how can we justify saddling

future generations with radioactive waste for our short-term benefit? That's my issue. I think we can do better. Thank you.

CHAIRMAN CASSELLA: Thank you.

MR. GORDES: Just a question I have, too, and I should have probably asked Roger, and it goes back to the question being I don't think it says we're going to, you know, build a plant. It says we're going to study it. Is there some problem?

It seems like some of the remarks that I read coming in had a problem with studying it. Which way am I to interpret this?

MS. OLSON: At this point, I don't -- as a citizen, I have concern about it, because of the big picture.

MR. GORDES: Studying it?

MS. OLSON: Well there's limited resources. I imagine, sure, if you study it, you will be spending time doing that, and we have other avenues that also are worthy of study.

MR. GORDES: I think my colleague, Tim Cole, has made a very powerful argument to study more closely combined heat and power, which we're going to do. We're going to have a special session on that coming up

shortly. The 21st? The 23rd?

And, so, we're finding the resources somehow to do that.

MS. OLSON: Okay.

MR. GORDES: I have also, in a draft, it's not even been released, and a few others, where I say that the IRP is not holistic and not looking at options, and among those is a moderately decentralized scenario, making use of maximum achievable energy first, in combination with combined heat and power distributive resources, micro grids and so on.

And then there's another scenario, looking at it even for more heavily looking at decentralized energy options, because the IRP has not roamed with the times, so I'm mandating that, but to not study it as Americans, aren't we free and open and willing to study anything?

MS. OLSON: As long as we study the whole cost. I mean we have to be big in our view.

MR. GORDES: But, I mean, you know --

MS. OLSON: And there are things that haven't been resolved yet.

MR. GORDES: That's why we study it.

MS. OLSON: Okay. I'm a student.

MR. GORDES: I don't mean to beat up on you.

CHAIRMAN CASSELLA: All right, he's done. (Laughter) I want to go back to Roger, though. Roger, you said, and you don't have a mike, what did you say about the timetable relative to nuclear? You said combined heat and power is more likely to be implementable on a relevant time scale.

My question is what's a relevant time scale in your mind, because a relevant time scale in our mind when we started this was 10 years, and then it went to 20 years, and now it's gone to 40 years, because we look at the legislation that just came out of the Environment Committee in 2008, which says we're going to reduce our carbon emissions by 80 percent over 1993. You can't get there from here.

I mean how do you get there without looking at other technologies and what's a relevant time frame? Well I guess it's just a rhetorical question. What's a relevant time frame? What's a relevant time frame for you?

MR. SMITH: Well, then, I guess a rhetorical answer (laughter).

CHAIRMAN CASSELLA: It's not a rhetorical

question.

MR. SMITH: I mean I thought initially that it was a 10-year time scale you were looking at.

CHAIRMAN CASSELLA: It was.

MR. SMITH: In terms of the planning process. Given that there's a moratorium on the books, there's really no movement for anyplace to put the waste nationally.

CHAIRMAN CASSELLA: Well I'm not worried about that. I think we're smart enough, if we let ourselves be creative, that we can come up with technological solutions.

Maybe I'm wrong, but, you know, three years ago, everybody thought we were in a gas crisis. We've got more gas now than we know what to do with. We're going to be drinking it. We've got a 31-year supply of shale gas sitting not too far away from us.

Okay, it's got hairs on it. I understand the environmental issues, but that's American technology. We learned how to drill smarter. We learned how to hydrofracture. Okay. Like I said, it's got environmental issues, but we can deal with those, I think, but it's the same thing with this nuclear issue, as far as I'm concerned.

I just don't know how we're going to get there from here if we don't look at all the options.

MR. SMITH: I mean I'd ask you to look at it as much as you want. In the existing IRP, you actually analyzed the nuclear scenario.

CHAIRMAN CASSELLA: Right.

MR. SMITH: There was no such analysis for combined heat and power, for example. So I'm saying, if you had limited time and resources today, try to have a broader look, rather than diving deeper into one particular option, which, to me, seemed to be starting with the outcome and then figuring out how to get there, rather than looking at everything and then going in that direction.

CHAIRMAN CASSELLA: Let me back up to the combined heat and power observation, though. We just did a study on combined heat and power, so is it that it didn't make its way into here that you're concerned?

MR. SMITH: Yeah. I mean I'm familiar with the case study that came out on that, and I didn't really see much evidence in the IRP than it had been looked at as if it were a scenario or a component of the IRP on the same level as everything else. And it could have been a timing issue, and I'm not saying anything is wrong with

that.

CHAIRMAN CASSELLA: No, no. It's not a timing issue. It's just it's, again, it's a question of resources and priorities, and it is on our list of priorities, as far as what's going to come out of our reaction and what's going to come out of our report, right? Now I know we're working on CHP.

MR. SMITH: Just in terms of the time frame with nuclear, I mean the major issues to me it seems that you can't build nuclear power in a deregulated state, because nobody is going to put up the capital.

CHAIRMAN CASSELLA: Right.

MR. SMITH: There's no private financing for this. Even with loan guarantees, who knows?

CHAIRMAN CASSELLA: Right.

MR. SMITH: Combined heat and power, you know, you can actually site it, you can build it, people will finance it from the outside, solar, many of these other renewables, so in terms of the time frame, I'm saying these things are actually ready to go. Let's look at what the potential is, and if you want to study nuclear, because maybe it will be viable in 30 years, I'm not going to say don't do that.

CHAIRMAN CASSELLA: The best of all worlds

is you do the combined heat and power and you put one of Joel's small nuclear reactors in there.

MR. SMITH: As long as it's at Joel's house.

MR. GORDES: Actually, there were plans for ones in your basement.

CHAIRMAN CASSELLA: Yes. I've heard of the residential. All right, thanks. Okay. Sharon Voche?

MS. SHARON VOCHE: I'm actually the second of third from PACE. The third person, Wendy, came in too late to sign in, but I think she's been scared off by Joel.

CHAIRMAN CASSELLA: We all have.

MS. VOCHE: Well if you can convince her to come up? We'll try to keep the three of us, the Three Musketeers, within your time frame.

CHAIRMAN CASSELLA: Joel doesn't have a time frame. That's the problem.

MR. GORDES: I used to be out there.

CHAIRMAN CASSELLA: I know.

MS. VOCHE: My name is Sharon Voche, and I share my thoughts about this plan as a member of PACE, People's Action for Clean Energy, which has shown hundreds of Connecticut residents over the past several decades how

well renewables work in Connecticut, and as a member of the First Congregational Church of Southington, and as a person of faith, who believes in the importance of environmental justice and that we have a moral obligation to consider what's best for our planet, our fellow humans and other species, as the founder of Sustainable Southington, a growing group of young people committed to making encouraging and encouraging others to make sustainable choices, and as a co-owner of Evergreen Energy, which installs solar, wind and geothermal systems, including a recent installation of a 15 kilowatt wind turbine in Avon.

Most of all, I've come today as a former teacher and a parent. The decisions we make now will impact our sons' and daughters' health and economic futures. I would like Connecticut to be a desirable place for these young people to raise their families, too.

I appreciate your working to consider many options. Obviously, some are better than others. One should be eliminated all together, so that resources are not unnecessarily wasted, and this is to the point about studying nuclear resources are required to study anything.

There is a myth, that nuclear power is cheap and clean, and neither is true. Please consider the

words of the many organizations that have already documented why, including Clean Water Action, the Sierra Club, PACE, Portland. Lots of people have lots documented reasons. I don't need to go into details.

The sun shines and the wind blows for free, and the ground has stored the sun's warmth like a huge rechargeable battery. Let's not disregard or diminish renewable energy just because there's no corporation that will benefit from selling its fuel.

Once these systems are in place, the installer walks away without hoping to make more money on the deal. These installers, who, by the way, could help our local economy if Connecticut companies are hired to do this work, are happy to move on to the next installation to make their living and improve the environment.

Therefore, if the goal is to sustain and not just profit, then state renewables should be the cornerstone of the new plan.

CHAIRMAN CASSELLA: Thank you, Sharon.

MS. WENDY MADIGAN: Hi. My name is Wendy Madigan. I'm the newest member of the PACE Board, and I'm also a member of the Canton Energy Task Force. I could read my whole letter here, but --

CHAIRMAN CASSELLA: You could. That's all

right.

MS. MADIGAN: I'm not going to go into the whole thing. What I want to say is, between my volunteering at PACE and also working on my Energy Task Force, I've met a lot of people, students, teachers, members of my town, concerned parents, and everybody are saying the same thing. They all support renewable energy source, and they also are looking to have help with conservation methods.

I should have started from the beginning of my letter. I knew this was going to happen. Anyways, I'm just hoping that we can further fund a lot of the programs through the Connecticut Clean Energy Fund and the Connecticut Energy Efficiency Fund that I've been promoting in my town.

CHAIRMAN CASSELLA: Thank you.

MS. MADIGAN: Thank you.

MR. GAUDIOSI: Again, to the three speakers from PACE, thank you very much for your comments, and much like I did with Chris earlier, I encourage you to use your influence and use your membership to contact your legislators with the same message you brought to us, in terms of energy efficiency, because that's the only way we're going to be able to keep the money where it is, is

that people like yourself contact their legislators and have the people that you talk to and deal with on a daily basis do the same, so that we can insure that the conversation we're having here is to which level of DSM is best, is it a moot point, because there would be no level of DSM.

So, again, I thank you for your comments, and I encourage you to make them as loud as possible to the legislature.

CHAIRMAN CASSELLA: Thank you. Mandi Jackson?

MS. MANDI JACKSON: Hi. My name is Mandi Jackson. I'm here with the Connecticut Center for a New Economy. CCNE is a non-profit, with offices in both Hartford and New Haven, dedicated to improving the economic and social well-being of working families in Connecticut. I feel like I'm too short.

CCNE supports the All Cost Effective Strategy, because it has the potential to create thousands of new jobs, reduce utility bills for working families, and bring energy efficiency and economic benefits to low-income communities.

Connecticut has the highest energy costs in the continental U.S. Not only is this a deterrent to

business growth and job creation, it also means extremely high utility bills for working families.

These bills were a hardship even before the economic crisis, but now it has become even more of a hardship for families in low-income communities.

What working families in Connecticut need most right now is to reduce the cost of living and increase family income and job security. That means new jobs with career paths, living wages and health care and relief from high utility bills.

Most of the money we spend on energy here in Connecticut, up to 90 cents of every dollar, goes out of state to pay for coal, oil, gas, or to the corporate profit of merchant generators, but through the All Cost Effective Strategy, the money we spend will go back into the local economy, creating jobs and revitalizing communities.

Most of every dollar spent on efficiency stays right here in Connecticut. Through labor and community partnerships, jobs created through efficiency programs can be made accessible to low-income communities through outreach, recruitment, job training, Union apprenticeships and real career paths.

We've seen this work in its early stages in

Massachusetts, where the passage of the Green Communities Act in 2008 and the Coalition of Labor Community Environmental groups convened by Community Labor United established a blueprint for connecting energy efficiency standards to the creation of accessible secure living wage jobs for low-income communities.

CLU is coordinating four pilot projects right now in China Town, Lynn, Chelsea and Springfield and working with four different building trades Unions, the painters, the carpenters, utility workers and laborers, each involving local hiring and training for residents in the same low-income areas where weatherization will occur. In other words, those communities get both the benefit of these efficiency programs and the jobs associated with them.

In Massachusetts, the utilities are financially supporting community outreach. That's door-to-door recruitment for both work program trainees and, also, for households to take part in these weatherization programs and the newly created efficiency jobs, which are sorely needed right now, pay Union wages of 22 dollars per hour, plus benefits, which is more than I make, I think.

This is what we need in Connecticut right now. CCNE can help bring together labor and community

groups to facilitate this kind of door-to-door outreach and work recruitment and training. We also have a relationship with CLU and can facilitate learning more from the programs that they've already worked to establish in Massachusetts.

In closing, as an organization primarily concerned with economic and social justice, CCNE strongly urges the CEAB to support the All Cost Efficient Strategy and to recommend that the DPUC require full funding of the strategy.

The target strategies narrower focus would not only exclude lower income communities from participation and potential energy saving benefits and limit job creation, it would also limit the success of the program by restricting its reach to a smaller sector of the economy. Thanks.

CHAIRMAN CASSELLA: Thank you. Any questions? Melissa Patterson Meador? Hi.

MS. MELISSA PATTERSON MEADOR: Hello. I don't often speak in public, so this is a --

CHAIRMAN CASSELLA: Well we'll try to get Joel to behave.

MS. PATTERSON MEADOR: I came to support energy efficiency and the All Cost Effective Strategy,

because it just makes -- it's common sense. We have an old adage that we all know, waste not, want not.

We have a lot of new technology that is in play today and coming on line and evolving for energy efficiency, but when you think about the business world, we know that when new products come to the marketplace, that they face barriers of entry, and they don't have economies of scale.

These new efficiency technologies, lighting, geothermal systems, solar, photovoltaic, all these new products can help us achieve our environmental and our energy goals and our economic goals, and I think it's in the best interest of the state and its people that we do whatever we can do speed the development of these businesses along. These are the businesses that are going to be part of the future.

I've heard people talk about nuclear, and I spent 20 years in the nuclear industry. Nuclear is not a new technology. Nuclear came out of the Cold War. It was a spin off. It was a government-financed spin off, and we've had 50 plus years, really probably about 60 years to develop a solution for waste and to lower the cost and all these other things, and that's not been done.

It's a very mature industry, and while I

can't ever say that I would object to studying any type of energy generation or energy efficiency technology, I guess, if we have limited funds right now, I would have concerns about us spending those funds on something that we've been playing with for 60 years and don't have a solution in Connecticut, or at the national level, or even internationally.

Waste is a problem everywhere. Proliferation is a problem everywhere, as is evidenced in our daily news briefings on the situations in North Korea and Iran.

I did want to give you a little background on me, too. As I said, I spent 20 years in the nuclear industry, have a lot of friends who still work there, or did work there, so I have no personal grudges against the industry or any of its people. I just know the realities of that industry.

And I also have an MBA from the University of Connecticut, so I've studied the business side of new technology and product development. I've worked in that area. And I have currently gone back to school and am studying sustainable energy management at Eastern Connecticut State University.

I did want to make one comment. I didn't

really come prepared to talk about costing of renewables, but we've been studying that, and the studies that I remember from last semester suggested that wind is on par and in some cases a better cost investment in coal for power generation, and that wind costs are coming down, and nuclear is the most cost intensive, capital intensive investment you can make.

It's a long duration build, as it should be, because you do need a lot of redundant safety systems for a lot of different reasons. Security is one of them, as Joel has pointed out.

The figures that I heard earlier today, about wind being not cost competitive, don't match up with the things that I'm learning currently at Eastern in the case studies that I've looked at.

CHAIRMAN CASSELLA: Thank you. Andy Bauer?

MR. ANDY BAUER: My name is Andy Bauer. I live in Portland, Connecticut. I chair the Portland Clean Energy Task Force, and so, for Jeff and Joel, this is going to be kind of part two of what we talked about in the summer.

I'm definitely for the All Cost Energy Efficiency measures. I have worked closely with Rebecca Myer, and we have been able to get over 200 residents

signed up for the Home Energy Solutions energy audit.

I just need to stress how much, again, this is one of the best kept secrets in Connecticut. People just don't seem to know that it's out there. I think, and I'm trying -- I'm doing whatever I can. I think we've had some success, you now, bolstering the signups. We continue to do that.

And when I tell people about how good this stuff is, they just kind of say, oh, what? Really? For how much? That much? So they really like it. They get the fact that this is going to drive down their energy costs.

In Portland, and, unfortunately, it made the news for all the wrong reasons, but when people drive down 66 in Portland and look across the river and they see the Kleen Energy smokestack, they're really like why do we have that there when we already have another, you know, energy plant there.

I'm somewhat well-versed, so I can talk about making more efficient plans, hopefully driving the old ones off line. I can do that whole thing, but far and away, it's like reverse nimbyism. It's like they don't want the power plant close by, but they want energy efficiency in their home, and once they find out a program

like this, then they're all over it, so, obviously, that has my clear support, you know, for energy efficiency and conservation.

And just so you know, I do contact my legislators quite a bit, both on the national and the state level, and I try to be polite, as polite as Joel often is, in getting that point across.

I'd also like to throw in my two cents. I also have PV panels on my house. Joel, you and I spoke about this point just a week or so ago. I think we need to look at solar panels on people's homes and businesses as almost on an -- in terms of national security. We need to start looking at solar panels as one more tool in our arsenal, just like bullets and just like guns and just like soldiers, because if we can make this country energy independent, and I know it's not going to happen in my lifetime, but if we can do that and solar panels, wind turbines, fuel-free systems essentially, it's a great way to proceed.

I have to give my two cents on nuclear. As far as studying nuclear, as I wrote in my testimony, since nuclear power's numerous challenges show little evidence of being overcome, expanding Connecticut's nuclear facilities is not an option. I understand now you're

talking about studying.

I guess where I'm coming from is, like the previous speaker mentioned, you know, nuclear power is, what, 55 years old? The way I look at it, and this is unkind, but it's accurate, I mean when a parent has a child, the parent is expecting that child to be self-sufficient like after they graduate college. Maybe they help them out buying a house, or buying a car, but nuclear power is the 55-year-old child still living in his parents' basement.

Can nuclear power financially survive outside of government assistance? The answer is clearly no. Do we have an answer for nuclear waste? Right now, we don't. And with regards to the study, I understand that, but for my two cents, this is a showstopper.

If we do not have the answer for nuclear waste, then it's the end of discussion. Until we get answers like that, then it remains a question.

Anyway, thank you very much for your time. I'd be happy to try to address any questions.

MR. GORDES: I'll just make a couple of comments. The combined cycle gas turbine is the let's say the grandchild of the combustion turbine, gas turbine jet engine. That started out actually in about 1903, and was

about three percent efficient, and wasn't looked at for a long time until World War II.

Huge amounts of subsidies went into that, the people like Sir Frank Whittle(phonetic) in England, and Hans Oheim(phonetic) in Germany, and that subsidization is continued to this day with billions going into a program called IHPTET, the Integrated High-Performance Gas Turbine Engine Program.

So the subsidization continues for energy systems of all types up to now. And I'll say this, too. Think of it this way. PV has been around since 1954, when Bell Labs first developed the silicon model of photovoltaics, and it's still going to take awhile until it makes market parity, but there's been this strong component in some ways of government support.

The difference between the gas turbine and photovoltaics has been this, and that was the government did their R and V, but then they went on to procurement, billions of dollars worth of procurement for jet engines, for fighters, transports, everything else, which made jet flight available to us.

They did not do the same with photovoltaics, so there's a whole degree of difference of what's been given to photovoltaics versus what's been

given to the others when people say, oh, PV is this, that and the other thing and costly. The procurement was never followed.

MR. BAUER: Well, then, I'd like to just offer this thought, and that is, if we had a program to have photovoltaics be 20 percent of this country's energy supply as nuclear is, if we were to do that over, you know, pick your time frame, then PV costs would just plummet.

In the '70s, they were, what, 100 dollars per kilowatt, and now they're, what, eight? And, again, I don't have the document. I can't source this right now, but I'm sure I could find it.

I understand that if we were to simply double our PV manufacturing base, without any substantive technological improvements, then the price would fall by 50 percent again. So I look at PV and wind, you know, as energy technologies, which are in their maybe not embryonic stage, but certainly their infancy and the potential, I think, is just huge, whereas I think nuclear, I think, how much better is nuclear going to get?

I don't know the answer to that question, but I would say it does not have the potential as PV. Thank you very much.

CHAIRMAN CASSELLA: Thank you. Any questions? All right, well, then, having no other sign ups, I'll ask for final comments from the Board.

COURT REPORTER: One moment, please.

MR. GAUDIOSI: It seems most of the comments that we got today are geared towards the All Cost Effective option, and this really kicks off CEAB's study into this, as to what we will end up recommending.

But sort of having all of my hats on while I sit here, the ECMB has been really studying this for about six weeks now, and with the idea of, you know, I think everybody likes the All Cost Effective, but how do we get there?

As I mentioned in my comments, we're looking at a lot of financing options, a lot of different ways of doing it without increasing rates, and what we've heard today is the rate increase that would come with it is fairly minimal when you look at your average home.

I think the problem that we, meaning this Board, that Board, and all of us, see is when you start to get to the extremes, when you look at the large industrial company based here in Connecticut, where a slight increase on a mill rate really makes a huge difference, it gets into tens of thousands of dollars, as well as the other

end, when you look at the very poor, where, you know, an increase of a couple dollars a month really does make a difference on quality of life.

So, as I mentioned, with the ECMB, our charge I guess we've given ourselves is how to find ways of reaching that All Cost Effective without it being a rate impact, and I give the same charge to everybody here today.

I encourage you to get back to us at the CEAB, to get back to the ECMB, or even myself, personally, and, you know, with any ideas you have on how to address that.

I mean it's simple, I would think, for all of us here to say, yeah, I'll spend an extra dollar a month, or 1.40 a month on my bill to get that, but we are not everybody that would be effected by that increase, so I'd say, as Chair as ECMB, we're looking at that, and I ask everybody out there that really backs this idea to sort of join us in looking on how to do that.

I know this Board, the ECMB and myself, personally, would welcome suggestions on that, and as we're wrapping up, simply because he didn't get to it, on behalf of Tim Cole, I'd just like to say Denmark (laughter). Thank you.

MR. COLE: Is that my cue? I made a firm resolution I was not going to use that word today, but a certain northern European country.

Just picking up on what Jeff was saying, I think the thing, well two things, one, all of these strategies, whatever their merits, involve huge amounts of money, and figuring out that piece, and any thinking that anybody has about how we finance any of these strategies, I think that's something that we are wrestling with a lot.

It's one issue to think through what's the best option, in terms of economics and environment and cost, but figuring out how to get there is a huge issue.

The second point I would make, and it really, I guess, in a way is a request to many of you, I had a conversation with somebody from the Center for a New Economy yesterday, and I said one -- they have this great vision of community organizations, labor groups working together on weatherization programs and it's great, you know, and they have a model up in Massachusetts that does it.

Somebody has to do any one of these strategies. It has to be somebody's business to do it. We know whose business it is to do transmission. That's

N.U.'s business, and they will do it. Why has the NEEWS project got a lot of muscle behind it? Because it's in N.U.'s interest to go down that path, and, so, they will -- and I'm not faulting them.

The point is there is somebody who is going to execute on that strategy. You go to Dominion, and they will work hard on the nuclear option, because it's in their interest to do so. And, again, I'm not faulting them.

If we want to implement some of these other strategies, there's a real question about who is going to do it, and I think that's something we all need to wrestle with.

We can make a policy. We can go to the legislature and twist the arm of the Governor and maybe get more energy efficiency dollars flowing, but it's still going to come down to whose job is it to make these things happen, and I don't feel like we collectively have a good answer to that, that some of these new departures we can do them on a piecemeal level, we can do them on the level of a community organization, but to get them to scale, you know, whose responsibility is it going to be to implement some of these strategies?

So I'm just throwing that out there as

something that I'm thinking about. I mean those two things, how we finance any of these options, and who does something where there isn't already an obvious implementer in place.

CHAIRMAN CASSELLA: Joel? Nothing? I guess that concludes the hearing for today. I want to thank you all for coming, and please stay tuned to the CEAB website as this materializes. It has been a very open process, and we want to continue to keep it that way, and we'll be at this until we finish on April 9th, so thanks again.

(Whereupon, the hearing adjourned at 3:15 p.m.)

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