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HOUSE OF REPRESENTATIVES

CONSUMER AFFAIRS COMMITTEE

STATE CAPITOL  
ROOM 140, MAIN CAPITOL BUILDING

WEDNESDAY, JANUARY 11, 2012  
10:00 A.M.

HEARING ON  
HOUSE BILL 1580 (ROSS)

BEFORE:

HONORABLE ROBERT GODSHALL, MAJORITY CHAIRMAN  
HONORABLE JOSEPH PRESTON, MINORITY CHAIRMAN  
HONORABLE BRYAN BARBIN  
HONORABLE JOSEPH BRENNAN  
HONORABLE FRANK BURNS  
HONORABLE SHERYL DELOZIER  
HONORABLE EUGENE DEPASQUALE  
HONORABLE BRIAN ELLIS  
HONORABLE JOHN EVANS  
HONORABLE JULIE HARHART  
HONORABLE WARREN KAMPF  
HONORABLE ROB KAUFFMAN  
HONORABLE NICK KOTIK  
HONORABLE SCOTT PERRY  
HONORABLE TODD STEPHENS  
HONORABLE MARCY TOEPEL

ALSO PRESENT:

HONORABLE CHRIS ROSS  
PRIME SPONSOR HOUSE BILL 1580

COLIN FITZSIMMONS  
MAJORITY EXECUTIVE DIRECTOR

AMANDA RUMSEY  
COUNSEL – REPUBLICAN RESEARCH

JANE HUGENDUBLER  
MAJORITY LEGISLATIVE ADMINISTRATIVE ASSISTANT

ELIZABETH ROSENTEL  
MINORITY EXECUTIVE DIRECTOR

LISA KUBEIKA  
MINORITY LEGISLATIVE ASSISTANT

TIMOTHY SCOTT  
MINORITY RESEARCH ANALYST

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WRITTEN TESTIMONY SUBMITTED:

THE HONORABLE TOM CORBETT  
GOVERNOR OF PENNSYLVANIA

ROBERT F. POWELSON, CHAIRMAN  
PA PUBLIC UTILITY COMMISSION

CARL MEISS  
PENNSYLVANIA STATE GRANGE

ROBERT N. BARLEY, PRESIDENT  
STAR ROCK DAIRY, INC.

CHRISTINA E. SIMEONE, DIRECTOR  
PENNFUTURE ENERGY CENTER

COREY WOLFF, CEO  
ENERGY SYSTEMS & INSTALLATIONS, INC.

JERRY STERN, OWNER  
SUNLION ENERGY SYSTEMS

MARTY GILBERT, DIRECTOR OF ENERGY DEPARTMENT  
WALMART STORES, INC.

JUSTRINA WASICEK, CO-CHAIR OF ENERGY ISSUES  
PA SIERRA CLUB

MICHAEL P. MALLOY, JR., ESQUIRE

CHAIRMAN GODSHALL: Good morning. The hour of 10:00 having arrived, I call the hearing – this hearing to order. This is a hearing on House Bill 1580, which amends the Alternative Energy Portfolio Standards Act of 2004 to increase the percentage of energy derived from solar resources that must be sold to retail customers during the 2013 to 2015 years. The bill also requires electricity generated by eligible solar projects be directly delivered to the distribution system of a utility operating within the Commonwealth. This meeting is being recorded, and let's get started by having the Members introduce themselves, and I'd like to start over here on my right. Mr. Stephens, the last one to arrive, you want to start with introductions?

REPRESENTATIVE STEPHENS: Todd Stephens, 151<sup>st</sup> district, adjacent to the Chairman's in Montgomery County.

REPRESENTATIVE TOEPEL: Marcy Toepel, 147<sup>th</sup> District, Montgomery County.

REPRESENTATIVE DELOZIER: Sheryl Delozier, 88<sup>th</sup> District, Cumberland County.

REPRESENTATIVE BARBIN: Bryan Barbin, I represent southern Cambria County.

REPRESENTATIVE KOTIK: Nick Kotik, Allegheny County.

REPRESENTATIVE BRENNAN: Joe Brennan, Lehigh and Northampton Counties.

REPRESENTATIVE BURNS: Frank Burns, Cambria County.

REPRESENTATIVE PERRY: Good morning, Scott Perry, northern York, southern Cumberland County.

REPRESENTATIVE EVANS: Good morning, John Evans, 5<sup>th</sup> District, Erie and Crawford.

REPRESENTATIVE ELLIS: Brian Evans, Butler County.

CHAIRMAN GODSHALL: I'm Bob Godshall, Montgomery County.

CHAIRMAN PRESTON: Joe Preston, Allegheny County.

CHAIRMAN GODSHALL: Thank you, and at this time I'd like to ask Chairman Preston if he has any comments he would like to make.

CHAIRMAN PRESTON: Not much, Mr. Chairman, I just think that this is a – by the audience, we can see this is a very interesting and ongoing situation as we look forward to dealing with it. I look forward to hearing the testimony so our Members can make up their minds on some things.

CHAIRMAN GODSHALL: Thank you. We will start the hearing at this point. There will be an opportunity for questions following each panel discussion, and I ask that Members hold their questions until that time. Also, testimony from today's hearing will be available online, and I'd like to also remind everyone that we've got, you know, a fairly lengthy hearing. And I'd like to make sure that both the presenters and the questioners, you know, recognize the fact out of respect to the people that are following them and to try to keep, you know, things relatively on time as much as possible. So at this point, I would ask Representative Ross for opening comments. He's the author of House Bill 1580.

REPRESENTATIVE ROSS: Thank you very much, Chairman Godshall and Chairman Preston, members of the committee. I appreciate your taking the time and all of you coming up here on a non-session day to hear about House Bill 1580 and also about where we stand in the solar market today with the current situation with the Alternative Energy Portfolio Standards and generally the jobs situation and circumstances in the marketplace for solar.

I think it would be appropriate for me to give a brief history of why we are where we are today. As many of you know, the Alternative Energy Portfolio Standards was created back in 2004. I was one of the Members along with Senator Erickson who was involved in the original creation of that law, and the intent of it was to provide some marketplace support through the

sale of credits to help create a market and an increased number of solar installations here in Pennsylvania. The credits were market-driven, and so therefore, they were sold only to provide the differential that was needed to get a solar project up and going. It was always our intent that they would gradually decrease in value over time as the cost of solar installations went down, and they have had that general effect. And we have seen a continued reduction in the cost of solar installation, so I'm reasonably optimistic that over a period of a few more years we might be at a point where solar is able to be installed at a price that is competitive without any additional support and the credits will at that point drop to a, a negligible amount.

Unfortunately the – if we had just simply left the Alternative Energy Portfolio Standards alone and not intervened in the marketplace in any other way, I would not be here today. We would not have to have this hearing, but unfortunately, we did actually produce an additional set of incentives, short-term incentives that were very strong toward the end of the Rendell Administration, a grant program which was used in conjunction with the Alternative Energy Portfolio Standards and in fact overwhelmed those standards in some ways. The result of that was that they created a flood of new installations here in Pennsylvania, and the amount that has been installed or what is currently on the books for being installed in the near future overwhelms the Alternative Energy Credit number and will do so for the next several years. Essentially meaning that now that the grants are pretty much expended, there is no support left in the Alternative Energy Portfolio Standards for the next two to three years. That means that installers that are currently working right now will not be seeing any reason for new installations over the next several years. Some won't doubt will still be built, but overall, we will, I think, see a devastation in the marketplace for those that are relying on that for their business, and we – I



understand we have several hundred companies in Pennsylvania, and I think over a thousand, maybe several thousand jobs that are dependent on this industry right now.

So what I propose to do was simply to bring the credit requirements forward a couple of years and actually allow for a reset of the marketplace. This is only being done because of the government intervention. I would not be before you if this was happening by a market – normal market forces. But we in the government did change this marketplace. I think we have to take responsibility for that, and I think we have to adjust so that those who in good faith started businesses will not have to suffer for the negative effects of our actions.

In particular, I want to talk a little bit about the cost of this. There're several things that have been brought to my attention, and I have reacted to some of them. There's been concern about what this really costs to the ratepayers over the next couple of years. The analyses that I have received indicate that for a typical residential customer the net effect would be about twenty to thirty cents a month, more in the first year, less in the later years. The reason this is true is because, as I said, we're putting supply and demand back in the marketplace, back into balance, and so the temporary drop down to a negligible price for the REC's [renewable energy credits] will be brought back up to the price that people are currently paying or perhaps a little bit less. The typical market, I think, is been for contracts at this point in the mid-\$200 range. I'm expecting that if the bill goes through that those numbers might be at that number perhaps a little bit less. If nothing happens, they will drop down to \$100 or something perhaps even less than that, again insufficient to actually create any new installations.

Now, I've received comments from a variety of people, and you may hear from some testifiers concerned about two things in, in this regard. First of all, that we're intervening in the bill and changing the rules a little bit and that we're doing so in favor of the solar industry. I

have taken that to heart and also the concerns that people have about the overall costs, and I've prepared an amendment, and I've given you all a summary of it. It's at Legislative Reference Bureau right now that would change the requirement so that we offset every increase that we put in in the next several years by a parallel decrease over the life of the program, making this net neutral for the, the companies that have to comply with it over the life of the program.

I'm doing that for two reasons. One, I want to send a clear signal that we're not trying to favor the solar industry, that we're merely trying to correct an existing upset in the marketplace that we, as government, created. And secondly, I am concerned about the ratepayers and want to make it absolutely plain that there is no excessive burden being placed on the ratepayers so that we can maintain these jobs here in Pennsylvania. Secondly, in case there's any concern about a short-term spike in the marketplace, I'm putting in a fixed Alternative Compliance Payment. This is the ceiling that would ever – anyone would have to pay. Most companies don't get anywhere near the Alternative Compliance Payment, but there are some smaller ones that might be in compliant – need to use it for compliance. As an initial idea, I suggest \$325 with a 2 percent annual decline. The decline makes sense to me because I'm expecting costs to continue to go down for the installation. There are other ways of, of setting this. I'm open to discussion, but that seems to me important. In that amendment I've also put in some corrective language because there was some confusion. Maybe I was less elegant than I needed to in my language.

CHAIRMAN GODSHALL: Chris, if I may, you know apologize, but the same time the hearing today is on the bill before us, and that's all we have.

REPRESENTATIVE ROSS: I understand.

CHAIRMAN GODSHALL: We don't have any amendments before us.

REPRESENTATIVE ROSS: I'm going to be proposing the amendments, so I will – I would like to explain that because I am doing it in response to some of the requests that I've had. And I have given you a summary of it, and the language will be forthcoming, and I'm going to be asked – asking that it be introduced in the Committee as an amendment before it's voted. So I would like to explain it because I think it is critical.

CHAIRMAN GODSHALL: Well, briefly, because, you know, we have the bill before us, and we have a lengthy hearing.

REPRESENTATIVE ROSS: My summary of the amendment will be brief. The – there's also corrective language in there which raises – addresses the issue that some people had that we were potentially eliminating net metering and any electricity that was used behind the meter and also clarifying solar thermal, which was, perhaps, confusingly not fully included in the earlier drafts that we created earlier. So that will count as well, and that also should help with ratepayers.

So I think these corrective steps will further strengthen the bill and address the issues that we are concerned about. A second issue that had been brought up about the underlying bill is the discussion of the whole question about requiring future installations to be tied to the distribution network here in Pennsylvania. There are some very substantial benefits for having a direct connection to the distribution network. The distribution network benefits from solar energy in particular in two ways. First, it relieves congestion within the distribution network, which prevents the utilities from having to make additional upgrades to their lines and – in places where there is congestion and sometimes low voltage and other issues that are related to that, that we wind up being able to relieve some of those. Second, solar typically is available at times of peak

power in the hot summer months when the sun is high and when it's at its most productive, so it winds up having some specific benefits.

I think it's appropriate for us when we ask the Pennsylvania ratepayers to be supporting this program for them explicitly to be able to benefit from the, the rate increases or the rate costs that they have, so that's the, the rationale behind asking that they connect to the distribution system. This is actually a direct parallel to the language that has currently been in place for quite a number of years in New Jersey, also in Maryland and Delaware. Those states have recognized the importance of the benefits to the distribution network in their state, and they have quite parallel language. Some will discuss Massachusetts, and I know that's been brought up before. Massachusetts's language was quite different than the language we're proposing or the language that's been in use in New Jersey, Maryland, and Delaware, and I recognize it has much more of a potential risk at the – on the questions of interstate commerce. I am not a lawyer. I'm not going to try to lawyer in front of you, but I did include it in the packet that I supplied with you – to you a brief that was drawn up by a lawyer who is familiar with these issues and further explains it to those of you that understand the law better than I.

At the end of the day, I think I thought about a parallel with a, a valuable vase, and I just wanted to share with – that with you. If you were holding a valuable vase in your hand, and it was slipping between your fingers, and you had the opportunity to make a slight increase in pressure around that vase and catch it before it fell, you'd do that that rather than letting it fall and crash into a thousand pieces. This is a modest change. I think it's been, particularly with the amendment, that I'm, I'm suggesting will be – will not be harmful to the ratepayers. And many people say that they like solar, but if you want to see solar continuing to operate here in Pennsylvania, we do need to make a, an intervention at this point to save those jobs, and I know

that if we do that, the – those involved in Pennsylvania will, will be grateful to you. Thank you for your attention.

CHAIRMAN GODSHALL: Thank you. I'd like to recognize Representative Kampf, Representative Kauffman, Representative DePasquale, and Representative Harhart who have joined us. Thank you. We'll, at this point, call the first, our first panel up. The first panel is Colin Murchie, Director of Government Affairs, Solar City; David Masser, President, Sherman Masser, Inc., on behalf of Pennsylvania Farm Bureau; and Barry Miller, Meadow Valley Electric. Gentlemen, you can start immediately. Again, I am asking you to be cognizant of your time and our time so we can get through with everybody on a timely basis today, and if there is any – you know, if you have testimony, that which I think most of us have, you know, it's fine if you can summarize at points. That would be appreciated, also.

MR. MURCHIE: Certainly. I appreciate the opportunity, Chairman Godshall, members of the committee. I'm Colin Murchie, Director of Government Affairs for Solar City, here representing Solar City, also Solar Alliance/ Solar Energy Industries Association. Very briefly, my company is one of the largest providers of solar energy services in the United States. We have actually now over 1,500 employees as of last count, more than a dozen operational locations nationwide, including 1 in Broomall, Pennsylvania.

We, over the past 5 years, have created more than 19,000 solar installations across the country and generated more than 1 billion dollars in project finance for those systems from partners, including U.S. Bank, National Bank of Arizona, and Google, Incorporated. Our model, somewhat different from some other developers, is that we sell, operate, own, and finance solar systems such that businesses, homeowners, even Fortune 100 Corporations whose names I'm

sure you'd be familiar with, can go solar with zero money down and a long-term, fixed-price power purchase agreement.

I just wanted to bring some perspective about the Pennsylvania market as it fits into the national market and the world market. Frankly, 2011 was a very good year for the solar industry, and we expect to see more of those in the future. In fact, the third quarter of 2011, for which is the latest we have data, was the best, best quarter on record in history for the solar industry in terms of continued increase in megawatts installed. In the third quarter of 2011 alone, more solar was installed in the United States than in the entirety of 2009, and the more than 100,000 jobs in the U.S. solar industry grew by an estimated 6.8 percent in 2011, significantly outpacing job creation in most other sectors.

Now, the entire promise that the solar industry has kind of implicitly had with the public in exchange for its public support is that while the volume continue to increase, the prices would have to come down, and all the state incentives would have to come down. And I can state that on a national level and on a state level we have, in fact, been delivering on that. A solar panel that would have cost about \$325 in 2008 now costs something less than \$100, and we've also had a significant savings operationally in terms of operating more intelligently and operating more efficiently on the installation side.

U.S. incentive programs are designed so that as those costs of efficiencies come in, they are essentially given directly to the ratepayer. All of the incentive programs in the U.S. ratchet down steadily as those cost decreases occur. In the case of Pennsylvania AEPS [Alternative Energy Portfolio Standard], this occurs in the form of direct competition in the marketplace. If I need more state subsidy than my competitor, I will lose out on that project, and they will go forward. The effect has been steadily decreasing prices in renewable energy credits in

Pennsylvania as designed over time. The problem, as the Representative before me mentioned, is that there's been a significant supply shock in this marketplace. In 2007, with a combination of what I believe was both state bond money and stimulus money, about \$160 million were injected in to this market, creating supply of solar projects sufficient to last the current standards targets, though estimates differ, but I would say third quarter of 2014.

Ultimately in a supply and demand balance market like the AEPS, the ratepayers will get their money back. HB 1580 proposes a different way for them to get it back. There's two ways we can do this: we could give an oversupply in the current market, cease growth, essentially shut down and wait for the increasing targets to intersect the existing supply. That's possible. Ratepayers would get their original bond and stimulus money back in the form of extremely low REC prices over the interim period, near zero REC prices. Alternatively, you could take the existing standard – ultimately, I believe, half a percent of Pennsylvania's electricity from solar, and move it forward a few years, not increasing the standard but accelerating it. Bringing the increasing targets forward to the point where they would be currently met. In that case, ratepayers would get their money back in the form of meeting the existing targets more quickly. The same amount of solar is being built ultimately, can determine when. I would submit that it is likely more efficient, especially in these economic times, to allow us to continue our history of declining prices, increasing employment, and increasing technical development and investment in Pennsylvania than to stop, wait, and then try and restart the car two years down the road.

I understand that people rightfully have the question, “When we will we be off of state subsidies?” I think we're all familiar with energy sector subsidies. They've been around for a hundred years or more, and we're not interested in being in that game. If you looked at some of the charts in my testimony, you'll see that the average state incentive for solar energy has

dropped from a high of nearly \$5 dollars a watt in 2002 to less than \$2 dollars a watt as of 2010. I can vouch that that trend has continued through 2011 and 2012. You know, on a personal level, I started business school last year because I'd like to continue my job in the solar industry for more than a few years, and I think there's going to be a lot more busdev [business development] people and a lot fewer lobbyists in the industry in about five years.

I know that we've all been exchanging information on the potential costs of the bill. I know that the Representative has proposed some cost control, cost containment measures that are in amendments, but I acknowledge we are talking about the bill that is before us now. I just want to give a sort of scoping note. In 2011 PJM [Pennsylvania, Jersey, Maryland Power Pool] reports that Pennsylvania utilities purchased about 86,000 SREC's [Solar Renewable Energy Certificate] at an average price of approximately \$208 apiece. That would be \$18 million dollars out of total electric revenue in the state of closer to \$14 billion dollars, so something like a 0.1 percent rate increase.

There's a lot of reasons that electric rates might go up and down by one-tenth of a percent in a given year. You know, it might be a, a bad weather year, or there might be a lot of overtime that year. But I would submit that while we acknowledge that this is an increase on Pennsylvania's ratepayers, that the economic developments benefits have been excellent, that the existing methods of competitive cost containment will continue to drive those down and ensure responsible spending, and that it is probably better to continue that progress through this adjustment to accommodate the current supply shock rather than to stop and restart.

This concludes my testimony. I've submitted written testimony, as well, for the committee that, if nothing else, has interesting charts, and I welcome your questions. Thank you, sir.



MR. MASSER: Yes, good morning, Chairman Godshall, members of the committee. My name is Dave Masser. I'm President and CEO of Stermann Masser, Inc. and Keystone Potato Products where we farm over 4,000 acres of crops, ship 300 million pounds of packaged and processed potatoes annually, and we employ over 300 people. We ship the equivalent of 900 million servings of potatoes every year, which are distributed from our facility 40 miles north of the Capitol.

I'm here today to speak on behalf of myself and the Pennsylvania Farm Bureau to express support for the intended objectives of House Bill 1580, introduced by Representative Ross, and the bill's effort to resolve a significant problem for farmers who have committed significant capital for the development of alternative electrical generation on their farms.

The Pennsylvania Farm Bureau represents over 53,000 farms and rural family members across the State of Pennsylvania. While many of you in this room may be familiar with the potential for government regulation to drive up the costs and the challenge of economic viability of family business operations like mine, you may be aware, or may not be aware, of the non-economic demands that are regularly placed on businesses by our customers and the economic impact that these demands have in increasing costs. Large regional and national businesses are not only trying to attain higher profits and greater returns for their shareholders, but they are also trying to get the public to positively view their businesses and those affiliated with their businesses as good neighbors, as businesses that operate with higher degrees of community service and also environmental responsibility.

In an effort to achieve a strong, positive customer image, these large businesses can place increased pressures and demand on other businesses trying to or buying from them to perform increased environmental and community measure that go well beyond the measures that

businesses are legally required to perform. Many of these measures are costly and cannot be implemented by smaller businesses like mine without increasing significant debt loads.

In 2009, my business was facing increased electrical costs as a result of utility deregulation. My family business was also feeling increased pressure from customers and marketers of our products that we make changes in our infrastructure and operations to demonstrate our businesses are achieving a greater sustainability profile. Some customers developed sustainability scorecards which reflected the degree of effort and achievement in sustainability that we were normally expected for businesses which – where they were commercially engaged. Action by our major customers to apply its sustainability scorecard to our operations was the driving force for us to develop a solar energy system. We didn't want to run the risk of losing three hundred jobs here in Pennsylvania.

Another significant factor in our decision to develop a solar energy generation system was the success of financial incentives made through public grants. We're able to partially finance the \$5 million system leaving \$2.6 million in debt that we had to finance from other sources. Loans from our system require us to make a \$42,000 per month payment.

At the time we committed to the project, there was a meaningful opportunity for – to secure much of the financing needed to manage the debt through the marketing of solar, solar renewable energy credits, SREC credits, from electrically generation from the system. The price of the SREC credits at the time would allow us to finance our project in seven years. The loan term will then allow us to manage the cost incurred by such debt level. Our system was commissioned in May of 2011 and has produced 64 percent of the annual power generation in the first 5 months of operation, so we can produce power here in Pennsylvania. We can produce solar power here. It's successful.

However, SREC prices have sharply dropped where we are falling behind \$300,000 below the annual revenue we reasonably projected to return through the SREC credits. We're breaking bank covenants, and we're placing serious strain on our cash flow and the profitability of our business.

The largely contributing factors is the sharp price in, is the sharp price – sharp drop in price for Pennsylvania SREC is the disparity in the marketing opportunity between Pennsylvania generators of alternative energy and generators operating outside of the Commonwealth. Many of the neighboring states whose laws require utilities to purchase minimum levels of electricity from solar and other alternative energy sources have limited the types of electricity that qualifies for marketing as SREC credit to homegrown electricity generation. These portfolio states have maintained SREC values for their solar energy producers by restricting out-of-state solar energy producers from qualifying for their SREC's in their state. Pennsylvania, however, places no similar restrictions on generated electricity qualifying from Pennsylvania SREC credits. Generators in the portfolio states have been able to dump their excess SREC credits into Pennsylvania markets, increasing the supply/ demand imbalance, and depressing the prices of SREC credits in Penn – for Pennsylvania generators.

Provisions in House Bill 1580 will help bring the SREC market in line with surrounding states by requiring solar production to take place in Pennsylvania to qualify for SREC's. The bill is proposed to be amended, also temporarily steps up the alternative energy portfolio requirements in Pennsylvania, while essentially capping SREC values to assure consumers of electricity are not paying inflated rates as a result of the SREC qualification. The provisions of House Bill 1580 as proposed to be amended will provide those who have already committed the significant debt risk to solar electric – electrical generation the necessary revenue to keep the

systems already developed in Pennsylvania viable while ensuring there will be minimal costs to consumers. In fact, power customers are already paying the SREC component of their electrical bill with the power companies banking the revenue due to exceeding low values of the SREC's in the state.

Pennsylvania Farm Bureau believes the Commonwealth made a commitment in 2004 to assure that investments would be made within the borders of Pennsylvania to develop clean energy production, such as solar, with the passage of Alternative Energy Portfolio Standards Act. Now that the financial commitments have been made in solar energy generation by many across the state, including farmers, amendments to House Bill 1580 are essential to supporting those who have followed the lead in taking the investment in solar technology. We urge the Legislator to take prompt action in passing House Bill 1580 as is proposed to be amended to level the playing field of competition that drives the values of SREC's that are vital to the economic viability of Pennsylvanians recovering from investments in solar technology.

Thank you to the opportunity to briefly testify before you today. I hope that I provided you some more insight from a solar operator and owner, and hopefully, it will bring much needed stability to solar energy development in Pennsylvania. And I'd happy to take your questions.

MR. MILLER: Good morning, Mr. Chairman and the rest of the committee. My name is Barry Miller. I'm President of Meadow Valley Electric out of Ephrata, Pennsylvania. We're a firm of about eighty people. We provide for our customers a wide variety of electrical systems and services. I am here today in general support of 1580. A little more about myself. I support free enterprise. I vote free enterprise, so why do I support House Bill 1580? This newspaper article from March 23 of last year says, "PPL will pay to control your air conditioning. A new

program will pay consumers to allow PPL to shut off their air conditioning for a few minutes during the demand peak or the hottest days of the year.”

As someone who’s worked in the electrical industry for over thirty years, that’s an embarrassment to me. Frankly, we’re the greatest country in the world. Why are we paying people to turn off their air conditioners at the hottest moment of the year? These programs that pay to turn off their electric programs are called demand response. The demand response programs are in place to protect the grid at its most vulnerable moment, the July/August summer peak, hot Sunday – summer afternoons. A fundamental electrical fact that we learned in every state of the electrical industry is that heat causes breakdown, and breakdown causes heat, otherwise known as the snowball effect. We are presently working with a number of firms with large refrigeration loads looking at ways to drop their whole load at summer peak and collect substantial dollars from local utilities and PJM. Most of them are installing diesel generators, such as this one that’s in a local supermarket we installed recently. At MVE, Meadow Valley Electric, we’ve been calling 2012 the “year of the generator.” I’ve got one of these in the pipeline for this year and two more on the books.

About one hundred years ago, we, as a nation, decided to distribute our electricity via electrical utilities, and frankly, it’s worked pretty well. But the world’s changing. Those demand response programs tell me that the electric grid is likely to be a choke point for economic growth in the future. The NIMBY factor, the not in my back yard, is not going to allow new overhead power lines or large power plants close to where they’re needed. We must figure out how to use the existing grid in such a way as to sustain growth. Solar PV [photovoltaic] will never replace the power plants on the Susquehanna, but small distributed generation, such as solar PV properly installed at the point of use, has a large future enhancing

electrical, the electrical grids' reliability, and in turn, allowing for sustainable economic growth. Solar PV, with its ability to produce clean power on the hottest days of the year, is a benefit to everyone. Solar PV creates a value that needs to be compensated and encouraged. Solar PV is a big part of the future of the electrical grid. We would be wise to handle it accordingly and do what we can to encourage the growth of properly-installed, clean, distributed generation. Distributed generation, the term for equipment that produces power at the load end of the power circuit, in other words, very close to where the power's being used. I could make other points about how solar PV supports the intent of deregulation about jobs, about pollution, or about energy independence, but all these feed my main point. Clean solar electric power produced at the point of use deserves the benefit of doubt when calculating value. Let me repeat: clean solar electric power produced at, at the point of use deserves the benefit of the doubt when calculating value. I believe House Bill 1580 moves in this direction and therefore, recommend its passage. House Bill 1580 is not perfect or in any – nor will any solution ever be perfect because the electric grid has, in many ways – is in many ways a perceived community property, as demonstrated by our attention to its regulation. There may be many competing interests attached to the grid, but it's up to the regulating authorities of which you are part to do their best to justly protect everyone's interest, and it's everyone – and it's in everyone's interest that the grid be reliable, especially on the hottest days of the year.

I welcome your comments, your questions, and will be happy to work with anyone for the improvement of our favorite source of power, which no one notices until the lights go out.

CHAIRMAN GODSHALL: Thank you. Mr. Masser you had – you said in – you based a lot of your investment in solar on the SREC prices. Apparently at that time, nobody told you

that these could go down, and when you put your operation in, that was further going to decrease the value of SRECs for everybody else?

MR. MASSER: We, we were aware that that might happen. We just – I guess we're unaware that it would happen.

CHAIRMAN GODSHALL: This quick.

MR. MASSER: As quickly as it did, and again, we were expecting a seven-year payout of vest, but unfortunately, it dramatically happened. Not, not – we were producing power five months, and, and it was reduced.

CHAIRMAN GODSHALL: Nobody told you that those SREC prices were going to remain where they were at that time?

MR. MASSER: That's correct.

CHAIRMAN GODSHALL: I've gotten a series of letters, and I know that other Members have also, and unfortunately, the message did go out by some installers that this is what the SREC price is. There's a solar credit. This is what the solar credit price is and implied, if not directly, indirectly, that this is going to hold. I mean, they never say it wasn't, or you're going to have to look. It might go down, so, you know, that was really not a product of government, you know, that caused that decrease.

We never – when we passed House Bill 204, I was here. Chairman Preston was here at that time, you know, and we were passing a bill that to put a certain amount of alternative energy into our system in Pennsylvania. And we, we have invested probably close to, at this point, and the state of \$200 million to do that. And that was an investment that was paid by taxpayers and ratepayers, you know, really, ratepayers from around the state, so we have a substantial

investment that we put in to allow solar, but I don't know that the state ever promised that we were going to subsidize this industry, you know, indefinitely. You know, it just wasn't done.

And I had University – I had Penn State University do a study for me on the cost of the alternative energy program in Pennsylvania, which was just finished about – was just completed a short time ago. The cost they estimated for, based on certain assumptions in 2012, would be \$43 to \$60 million that's going to be paid by the electric users in the State of Pennsylvania this coming year. And that same amount going to the end of our – of House Bill 2004 raises that to \$312 to \$439 million a year that we're paying and the citizens of Pennsylvania are paying to subsidize, really, the Alternative Portfolio Standards Act of 2004. I mean, this is what we're paying already, so the citizens of Pennsylvania who are using this electric are paying this bill and have been paying, plus a \$200 million that was already handed out. So, you know, I know I've gotten letters both ways, and I, I know where you're coming from. But at the same time, you know, I've gotten letters that say specifically, "I, I don't care if somebody puts these panels on their roof, but I don't think it's fair to ask me to pay for them. They're getting free electric and so forth, and I'm supposed to be paying for the panels," you know, so this is the situation that we're in. And I don't know how much going from the percentage we're at now for solar going up to a much higher level what this actually is going to cost.

Penn State says, "We find the cost of state solar photovoltaic to be quite high relative to the costs of other resources that qualify under AEPS. The cost of solar photovoltaic power today is nearly an order of magnitude higher than the price of electricity. Unless costs are – of PV modulars continue [to] decline at historic levels, we estimate that by 2021 the photovoltaic - - - will represent slightly over 6 percent of the AEPS tier 1 mandate but account for approximately 24 to 30 percent of the cost." So the cost is there. The cost is substantially higher, many times



higher, than other forms of electric, and the citizens of Pennsylvania are going to have to bear that cost. It's been estimated that that cost is going to be someplace between two and three billion dollars during the cost – during the running of the APS cycle, which is in the year 2000 or 2001. So this is the situation that our committee's at, you know, where we're at. If you would like to respond, that's fine.

MR. MURCHIE: I'd be delighted, Chairman. A few notes about the study performed by those students at Penn State, and we've reached out to them to discuss some of these methodical issues. Among other things, the Penn State study assumes that, obviously, every kilowatt hour, every megawatt hour of solar energy is a cost to the ratepayers of Pennsylvania. It assumes a certain number of megawatts of solar and then determines how much energy they would generate and get from there and gets the cost.

These solar radiation numbers that we find they used would be most comparable to an installation in Phoenix, Arizona, which I submit is a significantly more productive than an installation in Harrisburg or any elsewhere in Pennsylvania. Also omitted from that study is the 30 percent investment tax credit, as was 20 percent depreciation benefits. And finally, there's a assumption of no inflation in electricity prices starting from now through approximately 2046. The result being that the estimated cost of that would be above market that would be required to pick up by incentives for solar system remains relatively high. Where it is our belief that with continued solar declines, which they did assume, and some amount of increase, it would be smaller. There's a significant impact. There is a, an impact to this cost bill, but I believe that has been overestimated in some of the cost studies, we believe.

I also understand when people say, "Why is my neighbor getting solar panels? They get the solar panels, and we all have to pay for them." There is a legitimate cost question there.

Also, what I would say is that as we heard from Meadow Valley Electric, the solar panels that are on your neighbor's roof or on the Walmart down the street or on the high school gym down the street do offset some amount of capacity. PJM's is about 38 percent of capacity, and that prevents the building of future power plants that people would also have to pay for. There is a cost to this. There are also benefits, and it is relatively easy to overstate the cost.

CHAIRMAN GODSHALL: I'd just like to say this. I'm not sure where you're quoting from. This study was completed at my request. It was just completed a few months ago, and it was – it didn't talk about the inflationary cost when those prices – if costs – if caller – it spoke about the deflationary. The low price was a 10 percent of reduction in solar costs. The high end of the figures I gave you was a 2 percent reduction, so they were actually not looking at inflation. They were looking at deflated costs under what we have, and that's the figures they came up with. And it was two men in their energy department that put it together with no bias, no direction. Just all I asked for what's the cost of the Pennsylvania Alternative Energy Program of 2004?

MR. MURCHIE: Yeah.

REPRESENTATIVE GODSHALL: And their cost, it's going to rise to close to \$400 million in a given year, starting this year with something around \$100 million to the, to the taxpayers of Pennsylvania, to the rate buyers of Pennsylvania. And that's a significant amount of money to a lot of people in this state.

MR. MURCHIE: Yeah, and I'm familiar with the study. We have seen the documentation. I do understand that they did appropriately deflate the prices of solar systems from now and into the future, and they did two different cases, which was a smart thing to do. You say that they did not include inflation. I agree, and I think that that's a problem. They had

electric rates for a system installed towards the end of the APS throughout its life being approximately – being the same as today, and that is a significant issue. I would like the opportunity to work the Penn State what's in the Energy Department, who do seem like fair-minded and knowledgeable individuals, and I have no desire to impute malevolence here, just unfamiliar.

CHAIRMAN GODSHALL: Thank you. I have a number – first of all, please, you know, including myself, which I just did, turn your cell phones off, you know, and be respectful. And I just did mine, and we have a couple questions. Representative Barbin.

REPRESENTATIVE BARBIN: Thank you. Thank you, Mr. Chairman, and thank you, all, for testifying today. Mr. Masser, I had a question. Going over your testimony, there was – it, it seemed to me that what you were emphasizing is the reason for the problem with the credits was the fact that surrounding states had taken the position that your credits can't be used for – because it's a Pennsylvania installation. Did you know that when you went into the – when you went in for this project and you knew you were going to take out a \$3.6 million dollar loan, did you know that other states would take the position that, that credits could only be used for purposes of their in-state AEPS if they – but they wouldn't allow out-of-state credits?

MR. MASSER: To my knowledge, we were not aware of that.

REPRESENTATIVE BARBIN: Okay. And when did that happen?

MR. MASSER: I'm not sure when, when that development took place.

REPRESENTATIVE BARBIN: But very quickly, is that the reason why there – our credits have dropped? I mean, there's a lot of statements that have been made up to now that say the problem is we have \$200 million worth of projects, and to me listening to your – you know, the problem of your individual farm, it sounds more than the \$200 million dollar projects

that are out there that taxpayers paid for. It's this credit issue because of how different states are interpreting these requirements.

MR. MASSER: From my understand, it, it's almost like in- and out-of-state tuition with the reverse sense, but what's happening is they're selling credits here in Pennsylvania, and it's deflating our markets, and we're, we're not able to do so elsewhere. There's a different – there's a two-tiered market in other states. There's a market for out-of-state credits, and there's a market for in-state credits, and they're very different.

REPRESENTATIVE BARBIN: Okay.

MR. MASSER: And that's what happening.

REPRESENTATIVE BARBIN: All right. I have one other question, and, and that question is how long – you said in your testimony that you went into this with the idea that you would take out a loan so that you could control your own electrical source, and you were willing to carry a \$3.6 million loan. What is your loan for? How many years is it for?

MR. MASSER: It's a seven-year. We're, we're looking....

REPRESENTATIVE BARBIN: Has anybody gone to you and said, "Look, the – because the credit problem has been created in Pennsylvania, we, we want to extend that loan so that your payments aren't, you know, quite so high." Has – have you tried with any state agency to refinance your loan over a longer period of time?

MR. MASSER: We have not yet.

REPRESENTATIVE BARBIN: Okay. And, and I would only respectively suggest that if we've already spent \$200 million dollars, and the problem's a credit problem, and it's a loan problem, that our answer shouldn't be "change the electrical industry, or put additional burdens on the ratepayers" when the real answer ought to be "figure out a way to create a financing

mechanism that protects those Pennsylvania businesses that got involved with it before the assumption changes.” But I don’t think you have the right to say to the tax – the ratepayers or the taxpayers that \$200 – we need more than \$200 million. Thank you, Mr. Chairman.

CHAIRMAN GODSHALL: Thank you. Representative Stephens.

REPRESENTATIVE STEPHENS: Thank you, Mr. Chairman. Mr. – is it Murchie?

MR. MURCHIE: Yes, sir.

REPRESENTATIVE STEPHENS: Am I pronouncing that correctly? Thank you very much for your testimony. Is it safe to – well, why is it – why is this approach to straightening out the supply and demand problem that’s been created preferable to asking the folks in your industry, who I think you would agree with me, reaped substantially more rewards through all those increased incentives over the years? Would you agree with me on that?

MR. MURCHIE: Sure.

REPRESENTATIVE STEPHENS: Well, I mean, the fact is all those incentives was more business for you, and, and obviously, you guys did well during that period of time with all those incentives out there. Why is it not – why is the res – why shouldn’t the response be to say, “Well, given that you reaped all those rewards, greater than you anticipated, why shouldn’t you pass along some of those rewards to those that are doing installations now,” thereby lowering the cost and thereby lowering the necessity for the increased SREC requirements, as opposed to asking the ratepayers to foot the bill?

MR. MURCHIE: That’s a great question.

REPRESENTATIVE STEPHENS: Thank you.

MR. MURCHIE: Those are really are. Representative, I think those are the two options before you, and in fact, what you just mentioned is what’s happening now. There were good

times in, in Pennsylvania starting in 2007 on out where you did spend \$200 million dollars sounds about right, \$160 million in the form of bond funds, etcetera, \$40 million in the form of REC's to build a large number of systems and build a large business now. You could – you're ahead of your targets. Two options there, one of which, as you mentioned, is to say, "Okay, you had all of that business then. You're going to have no new business until we catch up." That would put you back into a supply and demand balance.

REPRESENTATIVE STEPHENS: Well, if I could, let me just interrupt you there because I take issue with that a little bit. I think if you use some of those profits and reduced your prices you would then increase the demand for your product, right?

MR. MURCHIE: Absolutely.

REPRESENTATIVE STEPHENS: So you, you have the ability to help increase demand for solar projects, so it's not like they would stop altogether if you reinvested some of what you earned over the past few years.

MR. MURCHIE: That's certainly true. However, if we were to reduce the prices offered by my company for power for leases or for other systems, we're sort of already at the point where marginal cost equal marginal revenue. We would, in fact, be decreasing marginal revenue below marginal cost. We'd be operating as a charitable organization. We wouldn't be able to do that over the long term.

REPRESENTATIVE STEPHENS: Well, you would have to use the excess revenues that you enjoyed in the past.

MR. MURCHIE: Right. The SREC prices that people anticipated in the future have not been realized by anyone, so this is not a windfall profit situation. Some, I would submit, irresponsible installers sold people that these are going to be re – you know, high SREC prices in

the future. Some, such as my company, did not do so. However, there's not really a windfall profit situation here. The solar industry is a growing industry, but it is a relatively low margin on it. It has margins along the lines of other residential or commercial construction businesses, so it's not that there really have been windfall profits that could be, you know, charitably reinvested in the state.

REPRESENTATIVE STEPHENS: Okay. And just to be fair to Representative Ross, I mean, I'm very interested in seeing the economic effect of the amendment. I know you said it was revenue neutral, Representative Ross, and I looked – and I would like to speak with you about that afterwards because I think that would be very encouraging. Mr. Masser – Mosser or Masser?

MR. MASSER: Masser, sir.

REPRESENTATIVE STEPHENS: Okay, Masser, I apologize. And I certainly am sympathetic to your plight. I mean, there's a lot of folks who've contacted me who are in a similar situation, and I, I echo a number of comments that my colleagues have really already mentioned in that regard. Just quickly, though. In terms of closing the borders, wouldn't, wouldn't that be simi – I assume you ship potatoes out of Pennsylvania, and I assume that some of the resources you use in your business operation come from outside Pennsylvania. I mean, wouldn't that be similar to requiring you to only ship your potatoes in-state and only use in-state resources for your business, and would that be fair to do to you?

MR. MASSER: It would not be, be fair in that instance. However, I feel that there's – right now our current situation with the credits isn't, isn't a fair situation. It's not an even playing field to start with. I think we need to even that playing field first. In the potato market, obviously, we've got a fair playing field. We can trade with any state, but right now, in

relationship to the SREC credits, we don't have that situation, and that is what we need to, to level.

REPRESENTATIVE STEPHENS: Okay. Thank you very much. Thank you, Mr. Chairman.

CHAIRMAN GODSHALL: Representative Toepel.

REPRESENTATIVE TOEPEL: Thank you, Mr. Chairman, and thank you for your testimony today. Mr. Masser, I have a quick question for you on your testimony. You referenced the fact that one of the decisions I think your business used in deciding to use or install a solar project was the pressure from your customers to achieve greater environmental sustainability, and you referenced that some of your major customers apply a sustainability scorecard. Can you explain to me how that scorecard works? Who's, who has developed the scorecard, and how has that affected your business?

MR. MASSER: The specific companies develop their own. Some have taken models from different representatives of the industry, such as United Fresh Produce Association has developed scorecards. FMI [Food Marketing Institute] has developed scorecards, and they've taken examples of that and maybe've used those and or have created their own. And basically, what it does is it evaluates your profile as far as what are you doing to conserve resources; how are you being good stewards to the environment, to the community, to your employees; what sources of renewable energy are you using throughout your facility; and others. And they've taken that scorecard and basically have used it as an evaluation tool to determine whether or not they should be buying your product.

REPRESENTATIVE TOEPEL: How long have they been using this scorecard, and has – have you found – basically, I'm interested in your – in the business practice. By using it, how



negatively it would affect your business and getting bids or whatever they do? Would you lose customers if you didn't comply with this sustainability scorecard system?

MR. MASSER: We would lose customers due to the fact we're competing with a lot of companies out of state. One of the issues is there are companies in New Jersey, for example, who have solar systems who are – we are competing with who are qualifying with these sustainability scorecards, and we're competing with them, so we're really using this system just to level the playing field to be able to compete. If we don't, if we don't look at renewable energy, if we don't look at ways to sustain our environment, sustain our crops, sustain our workforce, we will, we will lose our, our customers.

REPRESENTATIVE TOEPEL: Thank you.

CHAIRMAN GODSHALL: Thank you very much. I appreciate your testimony, appreciate your coming out here today. Thank you.

MR. MASSER: Thank you, sir.

CHAIRMAN GODSHALL: Next panel, Panel 2, is Terry Fitzpatrick, President of the Energy Association of Pennsylvania; Romulo Diaz, Vice President of Government and External Affairs for PECO Energy; and Charles Fullem, Director of Rates and Regulatory Affairs for the First Energy Company. Gentlemen, you can start when ready. Identify yourself when you speak so that for the reporter.

TERRY FITZPATRICK: Good morning, Chairman Godshall, Chairman Preston and Members of the Committee. I'm Terry Fitzpatrick, the President and CEO of the Energy Association of Pennsylvania. We're a trade association that's comprised of electric utilities and natural gas utilities that operate in the Commonwealth. Thanks for this opportunity to testify regarding House Bill 1580 on behalf of EAP's [Energy Association of Pennsylvania] electric

utility members. This legislation would amend the AEPS to increase the mandates for solar energy.

I'm going to give a little background here, and I think that's important because I, I think we skirted over some of this, and I think kind of focusing on the basis first helps to, helps to ground us in terms of the public policy question in front of us. The AEPS Act requires companies that make retail sales to customers in Pennsylvania, and that's both electric utilities and competitive electric generation suppliers, to purchase increasing amounts of alternative energy as part of their portfolios so that a total of 18 percent of such sales must come from alternative energy sources by the year 2021. Now there's two different tiers within that. Ten percent must come from what are called Tier 2 resources, such as waste coal and hydropower, and 8 percent of the 18 percent has to come from Tier 1 sources, which are renewable sources such as wind, biomass, and solar. Now, within both of these tiers, the eligible sources compete on the basis of cost. However, solar power is given a preference that no other energy source is given in that 0.5 percent of total sales must come from that source by the year 2021. That's the law that we have place now.

House Bill 1580 would make two changes to the AEPS Act. It would accelerate the mandated level of purchases in a three-year period, 2013, 2014, and 2015, and secondly, it would amend the eligibility requirements for the sources that, that can provide these supplies so that after January 1, 2012, registration of solar photovoltaic installations would be restricted to those sources that are directly distributing energy to Pennsylvania's distribution network. As we've heard in the testimony, these changes clearly are intended to address or remedy an oversupply of solar energy that resulted from government subsidies, grants, rebates, and tax credits over the last several years, and these subsidies have caused the amount of supply to exceed the mandated

level of purchases. This has caused the value of SREC's or solar renewable energy credits to drop and has led to – apparently led to financial distress for some solar developers.

The Energy Association believes that this legislation will significantly increase the cost to consumers for complying with the AEPS mandates, and this will leave families and businesses in Pennsylvania with less disposable income and negatively affect Pennsylvania's overall economic health. While the precise amounts here is not certain because, you know, we're doing projections here, and this is more of an art than a science, frankly. The Energy Association estimates that if House Bill 1580 were passed, the total solar mandate cost for Pennsylvania ratepayers would be between \$2.3 and \$3.4 billion through 2021, and these increased costs would continue even beyond that as long as the mandates remain in effect. The amount of increase that's solely attributable to House Bill 1580 over the nine-year period just till 2021 would be between \$1.3 and \$2.3 billion.

Now in collecting – our, our numbers are based upon actual SREC values in surrounding states, looking at states that have the type of in-state restrictions that are talking about being put in the legislation now, and we've noticed there is direct relationship between these SREC prices and the balance between supply and demand for the credits. And the greater the difference between supply and demand, the higher the SREC price. I do want to comment. I heard some testimony here about how the cost of solar is going down. That, that may be true, but the fact that somebody's cost of production goes down does not mean that the price for the product goes down. Prices are determined by supply and demand, and they're not directly related to the cost of production.

The, the preferential status that House Bill 1580 would give to solar energy would be harmful to consumers, because we're artificially accelerating demand for this product. The

trouble with doing this right now is that as an investor you take certain risks and you sh – you know that, or you certainly should know that going in. We're removing the investment risk from these solar investors, and we're placing it on the consumers. Now you must know this is the direct opposite of the policy that we follow for every other type of generation electricity generation in the Commonwealth and in the nation generally. The public policy there is that customers are going to benefit if we let these generations sources compete on the basis of cost. That will cause them to become more efficient, and in fact, the generation industry generally has become tremendously more efficient as a result of competition because investors carry the risks of those investments, but we're talking about reversing that here and putting the investment risk on consumers instead of on investors.

In addition, restricting eligibility to in-state projects is poor public policy, and we continue to believe that this provision may be unconstitutional. Restricting eligibility to in-state projects simply advances the interests of these developers over the interests of consumers. Consumers clearly would benefit by ha – by a bigger market, which allows more sources to come in and compete again on the basis of price in order to serve them. By restricting the scope of that market, that can only drive up the cost to consumers, and in fact, I think it's been very clearly stated that is the intention of doing this is to, is to bolster the price of the SREC's in the market place. On its face, this certainly appears to be designed to restrict the flow of interstate commerce, and that's what the courts protect against by applying the commerce clause.

Finally, the Energy Association has a separate concern with some language in the bill which could be construed to render ineligible solar projects, including roof top facilities that where all of the electricity produced is consumed on-site, and it's not, in fact, delivered to the distribution network in Pennsylvania.

So in summary, the Energy Association believes this is not in the public's interest. I would note, this is not really – this is not a matter of the direct self-interest of electric utilities. Under the laws that exist now, we have a right to recover these costs, so if the price is driven up by increasing these mandates, we'll get our money back. It isn't that – it's just that we realize that there's a lot of things that consumers are required to bear. We think we need – among other things, there's low-income programs that have to be recovered from customers. There's increasing infrastructure costs, and I know this committee knows about this because of the legislation you passed last year where we need to upgrade some aging facilities. Customers can't constantly be turned to for, for things which really aren't necessary, so I think we need to make those distinctions between what do we really need to do and what are some other things where, you know, we really have to be conscious of keeping the costs down. That's the reason that we're here today because we don't think this is in the long-term best interest to consumers. With that, I will conclude my testimony. Be happy to entertain questions.

CHAIRMAN GODHSALL: Mr. Fullem or Mr. Diaz, would you like to comment at this point?

MR. DIAZ: Thank you, Chairman Godshall and Chairman Preston, members of the committee. You have my written statement. I understood that in the interests of time we would have only one prepared statement read, but I do want to make two or three points if I might quickly. The first is that since 2009, PECO – and I'm Romulo Diaz, Vice President of Governmental and External Affairs for PECO Energy in Philadelphia, but since 2009, PECO was the first electric utility in the state to, to contract for solar REC's two years in advance of our compliance requirements. I would echo the point made by Mr. Fitzpatrick in connection with our interests here in testifying today. We do get full cost recovery, but our issue here is what's

the cost impact on our customers who do care about pennies, and particularly the large customers and municipal customers we hear from constantly in connection with our projected rates and their costs as a consequence?

We have three major concerns about the bill as it's been introduced. First, is the cost to consumers from the mandate our estimates and the PECO's own alone are that the increased costs would be in the order of \$200 to \$350 million for PECO's own customers through 2021? These are incremental costs. They're not insubstantial. That's a great concern to us. Secondly, we're concerned about the potential economic impacts on the Commonwealth businesses. There is a June letter from 12 major retailers to the Governor who point out that they collectively represent 1,142 facilities with 147,000 employees and \$141 million in annual electricity cost to consumers. And they have a great concern about operational of cost being affected and increased as a consequence of House Bill 1580, without any additional environmental benefits, I might add, because we're talking about shifting from the other Tier 1 resources, as Terry mentioned a moment ago, not increasing environmental benefits as a consequence. And those alternatives could be obtained at much lower premiums. And thirdly, we think, as the, the Energy Association has testified, that we send the wrong signal with this bill to the market, effectively shifting the risk from investors to customers, which seems totally contrary to the restructuring efforts in Pennsylvania which have yielded benefits to customers in terms of price protections.

So taking all of that into, into account, we have serious concerns about the proposal. We appreciate the efforts of the prime sponsor to try to address some of these concerns, but in summary, PECO has serious concerns about the likely impacts of House Bill 1580 on our customers, the Commonwealth's economic competitiveness, and on Pennsylvania's competitive

market structure, and we cannot support the bill. We thank you for the opportunity to present testimony this morning.

CHAIRMAN GODSHALL: Thank you, sir. Mr. Fullem.

MR. FULLEM: Thank you, Chairman Godshall, Chairman Preston, members of the committee. I'm Charl – Chuck Fullem, Director of Rates and Regulatory Affairs for First Energy Pennsylvania Utilities, here today representing Metropolitan Edison, Penelec, Penn Power, and West Penn Power. When my testimony has been submitted for the record, I'd like to make just a couple of points that the First Energy Utilities have been very active in supporting solar development through the process of buying long-term contracts for SREC's, and we bought roughly 10,200 SREC's per year for 3 of our utilities under 10-year contracts, approved by the Commission to date, and we have in fact filed a plan with the Commission to buy an additional 48,000 SRECs per year under 10-year contracts with the Commission for the period of January – we would be doing between January of [20]13 and May of 2016.

I'd also just like to address a couple of comments from the prior panel. First, there was a set of comments about PPL offering residential customers \$35 dollar discounts for shutting their air conditioner off in the summer months of, of July and August. While I can't particularly to that, I could say that Met-Ed and Penelec have the almost the exact same program. And we have that exact same program to comply with Act 129 that was passed where we are required to shed load for the top 100 hours. And when we were putting together our energy efficiency plan to comply with Act 129, we looked at various ways because we're required under that Act to only do cost effective energy efficiency, things that are in the best interest of our ratepayers over the course of those plans. And one of the things that we looked at and studied as a part of that was solar, and while the demand response programs that we have proposed and are implemented

passed the total resource cost to us, meaning that ratepayers as a whole were better off than if they hadn't been implemented, solar did not pass that test. It was too costly to pass the cost benefit test and hence was not included, so I would take some exception that we are – should be replacing those demand response programs with increased solar investment. The – there was a second comment that was made relative to the utilities banking revenue from lower prices, and I just wanted to be clear that utilities neither profit nor have costs incurred as a result of the changes in Solar REC's. Reiterate what the other members of this panel have said. These are passed through costs, and to the extent that prices have dropped, utilities are not banking. Those are, those are being passed through to our, our customers.

And lastly, there was a comment that some other states do have two tiers where one tier is required to be in-state and the second tier from out-of-state. One such state is Ohio, and in, and in the State of Ohio, the, the SREC's that are required to come from in-state are currently trading at five times the SREC's that are required that are allowed to come from out-of-state, and I think that's representative of the kind of impact the requirement to have SREC's be from within Pennsylvania could cause our ratepayers. And I just wanted to point out some of those issues. Thank you.

CHAIRMAN GODSHALL: Thank you, gentlemen. We do have a couple questions. Representative Perry.

REPRESENTATIVE PERRY: Thanks Mr. – thanks, Mr. Chairman, and thanks, gentlemen. Good to see you this morning. Mr. Fitzpatrick, just curious about a couple of the points you made, and, and I think a lot of us are struggling a little bit with the in-state situation versus, you know, “closing borders,” as we call it. And where you said it hurts Pennsylvania consumers that to not be able to participate in the open market of PJM, I would tend to agree



with you there, but I'm just wondering. In your opinion, does it also hurt the Pennsylvania-based installers or suppliers? And if it does and you question the constitutionality, potentially, the other states that, I guess, are sealing their borders – I mean, are we, are we taking the high ground there at the peril of some of our installers? And how do we juxtapose that with the peril that the installers are put in vice the – or versus the, the peril the consumers are placed in?

MR. FITZPATRICK: I understand your, your point. I certainly – I think, the, the best thing here would be if we had, frankly, what we're supposed to have under the Commerce Clause, open markets where states don't try to restrict all the benefits of an economic activity to them, but that's not what they have right now. I wish, frankly, there were more challenges such as there was in Massachusetts to these kind of requirements. That one was settled out of court. I think it would benefit everybody – in fact I – there's an article in the Electricity Journal on this very point from May, I think it was from of 2011, that made the point that all of these state restrictions are really hurting the development of solar power in the country as a whole. So it's a classic example of states trying to do this actually hurting an industry. But I would say this with respect to solar developers in Pennsylvania that they knew from the time that our law was passed that we weren't closing our borders. So they knew if they built here that they were – that they had this situation where, you know, other states might not let them sell there, and yet other states' facilities would be able to sell into our market. It's a question of how you resolve that. I would hope that we wouldn't participant in a race to the bottom by putting up these restrictions that are, I think – frankly, if they're challenged, probably unconstitutional, but, but even if not, even in terms of the policy, I think it just – it hurts consumers, and, you know, Chuck Fullem just gave a great example. You know, the in-state solar REC's are selling for five times – it's five times the cost in Ohio.

REPRESENTATIVE PERRY: Do you advocate any particular solution set in that regard for the Pennsylvania installers? I mean, other than like you said taking the moral high ground, I mean – listen, I appreciate what you’re saying, but do you guys advocate any particular solution in that regard?

MR. FITZPATRICK: I don’t know that there’s any good one. Again, I think they knew that situation existed when they got into it, but beyond that, you know, somebody needs to challenge these restrictions in court.

REPRESENTATIVE PERRY: Okay, thank you. And then I do have a question regarding the PJM, the grid, as I think most people think of it, and, and we on this committee and probably Pennsylvania consumers in general have heard that it’s under pressure on certain occasions, peak demand times during the summer, the hot days, and, and I’m wondering as it approaches capacity, when we’re – because part of the testimony from, from the advocates of the bill is, is that solar helps to reduce that strain. Do we know the incremental cost or the efficiencies of solar in – as it, as it helps reduce the demand or that that pressure on the grid as opposed to other methods? And which ones are the most cost effective and economical for consumers, and can you speak to that at all?

MR. FITZPATRICK: Yeah, I think Chuck Fullem actually addressed that directly. Maybe I’ll defer, defer to him if, if I may, Representative.

REPRESENTATIVE PERRY: Sure.

MR. FULLEM: Thanks, Terry. I, I – and again, I could speak to it directly as we looked at complying with Act 129, and part of that requirement was to reduce the peak demand during the top 100 hours. And we looked at solar as being part of that, and it was just not cost effective compared to the other energy efficiency measures that we have implemented that showed and

that benefits the customers while reducing that same load on the grid at that time of peak, and there's – just to make a long story short, there's more cost-effective means to do that today than solar....

REPRESENTATIVE PERRY: And we required you to do some, and some of those were dis-incentives to construction of new power plants. Is that correct or...?

MR. FULLEM: That's correct.

REPRESENTATIVE PERRY: What is the, the most cost effective demand reduction? Is it what we did, or is it something else?

MR. FULLEM: No, I think what Act 129 did while requiring us to – it required us to do it in the most cost effectively way possible. It said that we need – we're looking to reduce – I believe it's 4 percent in the top 100 hours. In the utilities, we're giving a – I always call it a box. You had so much money to reduce your load in total by 2 percent plus hit the 4 percent reduction in the top 100 hours, and it was supposed to be done on a cost-effective means. And because the budget was limited, we had to do it in the most cost effective manner, and I think we've done a series. There's a lot – there's a host – we probably have one hundred different programs that are achieving that goal, some of which is the demand response, and we think we've done it in the most cost-effective manner using a host of programs.

REPRESENTATIVE PERRY: Thank you.

MR. DIAZ: I wonder if I might just follow up, Representative, on, on that last point. We had a similar experience at PECO.

CHAIRMAN GODSHALL: Mr. Diaz, just for the recorder who's behind a wall someplace, you just identify yourself.

MR. DIAZ: Romulo Diaz with PECO Energy. We had a similar experience as First Energy with respect to the total resource cost tests. We had incorporated solar development as part of our Act 129 Energy Efficiency and Conservation Program, which did not pass the test individually as a stand-alone program, and that was not approved by the Public Utility Commission [PUC]. But that has been an example of a very effective program overall, so looking at it from March 2010 to the, the end of 2011, PECO customers have saved through those energy efficiency efforts \$145 million in reduced energy costs. Some \$60 million dollars in terms of incentives, and there are many, you know, continuing opportunities through what we would anticipate a second phase of the program, which the PUC is just now beginning to consider. So there are many alternatives for opportunities for customers to save without necessarily having to install solar energy, but as I think was pointed out by one of the other solar panelists today, there are opportunities to bid some of these resources into the PJM market, which is another way, outside of the incentives that are allowed through tax credits and grants, etcetera, and through the SREC program. There're opportunities through market-based programs the PJM administers for some of these developers to recoup some of their costs, so there are, there are some opportunities under the existing programs without any changes. And I would echo the comment that in terms of, you know, what's happening outside of Pennsylvania where there are these restrictions, you hear similar kinds of criticisms being raised. New Jersey just Monday evening closed its Legislative Session without taking action with concerns being expressed that in a state, in-state restriction, the SREC prices had dropped by more than two-thirds, and they were seeking opportunities to increase SREC requirements. So you're hearing that kind of a concern expressed in in-state restriction jurisdictions, as well as Pennsylvania. I think the answer is you got to look at market mechanisms to try to address what is a supply

demand imbalance, and it's going to unfortunately continue, as I think the prime sponsor indicated, for the next two to three years, but there are some ways to mitigate those impacts, as I just mentioned. Thank you.

CHAIRMAN GODSHALL: Representative Barbin.

REPRESENTATIVE BARBIN: Thank you, Mr. Chairman, and thank you, gentlemen, for testifying. I, I took from your testimony this morning that whatever restrictions are placed on by any state, whether it's New Jersey or Pennsylvania or anywhere else, is going to have the, the problem of raising rates. Because as these SREC's go up, somebody has to pay for it, and the person who's going to pay for it is the Pennsylvania rate-maker. And, and it's kind of following up on this thing. We're in a situation where some developers were farmers who have installed these things to get off the grid are in situations that they didn't quite understand all the intricacies of the market. So, again, I just have a question as to how, how any of you would feel about is the best way to proceed since we're in a recession is leave the – leave our standards alone until 2015 because everybody's done contracts on that basis but try to find these individual developers some help through the PJM or through financing. Is that the best way – is that our best alternative for trying to address the current imbalances?

MR. DIAZ: From my perspective, I would say yes. Representative Barbin, I thought your question and comments relative to financing opportunities was – I think those were quite relevant, and what you know what we – I think we have alluded to – I heard Chuck say earlier, you know, we've got long-term contracts. PECO has a ten-year, long-term contract. We've committed to purchasing SREC's for the, for the next 10 years at a substantially higher cost to, to our ratepayers so that average price was \$256 dollars a solar REC. It was intended to help jumpstart the market, so when we did our analysis, and I know people have different cost

estimates from which they've done their analysis, but we looked at a blended rate, if you will, that took into account what's happening in the solar REC market today and the foreseeable future but also takes into account the fact that we've got a 10-year contract that commits us to paying \$256 dollars a solar REC, and so you've got a lot of puts and takes involved in the current system. We ought to give it an opportunity to work consistent with the notion that we ought to look at opportunities outside of a legislative fix to address the kind of concerns that have been raised today. Thank you.

CHAIRMAN GODSHALL: Thank you. Representative Toepel.

REPRESENTATIVE TOEPEL: Thank you, Mr. Chairman, and thank you, gentlemen. I had a question. Mr. Fullem, in your testimony you state that currently our compliance with the solar renewable credits is costing \$3.3 million a year. Obviously, that's being paid but by the rate-makers, and this the ratepayers – and this bill is going to pass this cost onto them, as well, which we've heard previously maybe a quarter a month. Can you tell me how much currently that is costing the average rate-maker for our current compliance?

MR. FULLEM: Yeah, I mean, our current – we have a – at least Met-Ed and Penelec, as well as Penn Power, three of our companies actually have a separate line item on the bill for solar, and it is today because we know we're at the – this is the first year of solar compliance for both Met-Ed and Penelec. The average residential customer, it's pennies a month. It's probably three or four cents a month at most. That will go up naturally as the requirements go up in, in the existing legislation, probably doubling each year, and this could put this – the proposed 1580 would accelerate that increase. We've projected as much as 4[00] or 500 percent increases. But today it is very – because we're in the first year of compliance, it's a very modest amount on – and they see it as a line item on the bill.

REPRESENTATIVE TOEPEL: Thank you.

CHAIRMAN GODSHALL: Representative Stephens.

REPRESENTATIVE STEPHENS: Thank you, Mr. Chairman. Mr. Diaz, and with all due respect, Mr. Fullem. I'm in the PECO service territory, as are my constituents, so I just had a question for you. I saw that the overall cost would be, I think you said \$3[00] to \$500 million. I am sorry.

MR. DIAZ: Two hundred to three hundred and fifty million incremental dollars over the, the period that we're talking about.

REPRESENTATIVE STEPHENS: Do you have – has PECO done a calculation as to what the average residential customer would experience in terms of increased costs if 1580 were enacted as it is?

MR. DIAZ: We have Representative Stephens. Currently through the 2021 period that we've been talking about, PECO customers are estimated to pay a total of about \$70 for solar REC costs, and in connection with our estimate about the incremental costs of HB 1580, we believe that that would add an additional \$135 to \$220 dollars to the PECO per customer cost calculation that I mentioned. So we're talking about a potential doubling to tripling or more than tripling those solar REC costs through 2021.

REPRESENTATIVE STEPHENS: Thank you.

MR. DIAZ: Thank you.

CHAIRMAN GODSHALL: Thank you, gentlemen, for your testimony. I appreciate you coming out here today, and we'll follow up with the next presenter is Gene Barr, President of the PA Chamber.

MR. BARR: Good morning, my name's Gene Barr. I am President and CEO of the Pennsylvania Chamber of Business and Industry. Chairman Godshall, Chairman Preston, members of the committee, I very much appreciate the opportunity to speak on this issue here today.

The Chamber is the largest broad-based business advocacy group in Pennsylvania. Thousands of members across the Commonwealth, and you've heard from a couple of my members already here today, and we'll hear from a couple of more. So we have members that not only produce energy but sell energy, and here today, I'm going to talk a little about the folks who use energy, in many cases a whole lot of energy, which becomes a huge concern.

Our organization has had a long history relative to issues such as this. For example, to be honest, we opposed the original 2004 Alternative Energy Portfolio Standard for the reasons, many of which, to be honest, that you're seeing here today. First, let me applaud Representative Ross. We've worked with Representative Ross on many issues. He does care about these things. I applaud his concern over how we move forward on energy issues. It's one of those cases where we respectfully disagree with our friends. We have a little bit of a difference of opinion here, but the Chamber has had a long history in terms of how we approach these. To be quite honest, when you look at both the Federal level and the state level, various state levels, government does not have a great track record of picking winners and losers in the energy market, and unfortunately, that is what we believe happened in 2004.

First, also let me state that in our view, we believe that we need all sources of energy, whether they be the traditional historic strengths that Pennsylvania has of coal now, the emerging natural gas even more so, but nuclear, as well as wind, solar and all the other things that have mentioned here today. When you look at what the demand is for energy in the out years, we are



going to need everything. Our concern is, as I've mentioned already and you've heard here today, the concept of picking winners and losers is not one that we support. And to drive that home and to drive home some of the real problems that we've found in this, let me give you an example of a phone call I had a few years ago from one of our members. As I mentioned, we have a very diverse membership, and back a few years ago, one of the proposals out there was to increase the required purchase of solar energy here in Pennsylvania, that is to supplement the percentages that you've already heard about and that were contained for solar in the original 2004 Alternative Energy Act.

I had a call from one of my members who said that she wanted to talk to me about it, and I said, "That's great. We'd love to talk to you," because we had sent out a notice that this issue was out there. And I asked her what kind of, what kind of business she had, and she said, "Well, we have a machine shop, and we also have a solar energy business." And I said, "Okay, well, where are you on the bill?" And she said, "We adamantly oppose it," and she said, "Here's why." She said, "First off, we looked at the numbers for our machine shop, and because of the amount of energy that we use, we know that this increased Alternative Energy Standards are going to cost us money. Second, we've looked at this requirement, and we are trying to develop a different kind of solar technology, and we're not included in a mandate. Therefore, we're out of it," which leads to a very important conclusion. When government gets into the process of mandating what types, what types of energy, the best you can get, in my view, the best you can get is today's technology. You run the real risk of getting and mandating yesterday's technology, but that phone call more than anything else drove home to me you really shut off tomorrow's technology when government gets into the process of mandating.

Let's make something else abundantly clear about this bill. This bill, as you've already heard today a lot of theoretical, and I think that you've heard from, from the members of the industry very good numbers, but in reality, this bill must raise prices. It has to, otherwise the bill's a failure. The premise of why we're here today is that solar numbers are too low. Therefore, we have to move them up. Therefore, this bill has to increase prices, or the bill's a failure. Let's – you know, let's be quite honest about that.

What's interesting is that we talk a lot at the Chamber about how the market works, and, you know, while nothing is perfect, certainly having the free enterprise system and having people have the ability to make their own choices from our perspective is crucial. And despite the fact that in our view [20]04 attempted to put constraints on the market that should not have been put there, in reality, the market to a large extent did work. I was appointed by Governor Rendell to the Stimulus Oversight Commission. Therefore, we're able to see the amounts, the tremendous amounts of money that went into the solar industry during that period of time. And again, we support implementation of these technologies. We think we ought to put money in terms of looking at what's there, but when we get into mandating which ones we're going to do, again, picking winners and losers, we have a problem with that. Well, what happened is a significant amount of money dumped into this market. What happened is people came in to chase it. Yeah, in that case the market does work. It did get to be supply and demand, so in many cases that absolutely does work. What we heard throughout that period of time was that we wanted to get solar industry competitive with other markets. Well, we're actually getting there, not without pain, but unfortunately, this would bring it back the other way and attempt to prop those up.

Again, we have current mandates. I was going to touch on those. You have my testimony. I'm trying to summarize here as quickly as possible. You know that we've got – we

already have mandates that the solar industry has as part of that, and again, I just want to touch briefly on the jobs aspect. Clearly, there are jobs involved there when you look at the amount of money that we're talking about incrementally, and [when] you start putting that on a per jobs basis, per jobs basis that the consumer would have to pay for, it becomes fairly significant. Jobs are important. We firmly believe in private sector jobs, but at the same time, the consumer must be the ultimate arbiter. All things that we talk about relative to this on the energy side we do have to look at the consumer. And the other thing that I think is important to point out, I briefly mentioned, it is that energy prices are going down in many cases in many ways because of what Marcellus is bringing to Pennsylvania. It is a huge opportunity. It certainly presents challenges to us, but it's the biggest economic opportunity. As a native Pennsylvanian who left the state and came back, to me, it's the biggest economic opportunity we've had here, quite literally in decades, and it's already having positives for the consumers here in term of driving price down.

There was an interesting, and I was in here for the hearing yesterday. Yesterday in this very room, another House committee had another meeting, and they met to discuss the highly unfortunate situation in southeast Pennsylvania [of] over three oil refineries closing. It's about 1,500 jobs, and again, as you've heard many times, you know, this one's personal. To me, this is personal. One of the refineries that's – is already closed is one that I starting my working career at. In fact, I was third generation to work at the refinery. That's 1,500 jobs. Now the reasons for those refineries closing would be the whole subject of a totally separate hearing. It has a lot of negative impacts, quite clearly.

One of – a number of the reasons, one, to get technical, the kind of crude that's run there – but one of the reasons is regulations, and yes, we have to look at regulations. They're important. We clearly need to protect our citizens and the environment, but regulations in many

cases do have a cost. In this case, that cost certainly contributed to the closing to those refineries, again about 1,500 direct jobs. Many, many more from the trade side and related in ancillary industries that are down there. But the reason I bring that up is that there's a real analogy here, and the problem in the solar side is when you cut through everything else at the bottom line because I mentioned the free market really does come through and work in the end in most cases if you allow it, that the folks selling solar are not getting the price they'd like based on their costs. The analogy is the same for those three refineries closing. The folks down there cannot get the retail price, the price to the consumer that they need to offset the costs to run those refineries down there. Now, no one has put in a bill, and no one is talking about price supports for the oil industry in the southeast. No one is talking about accelerating and doing an in-state purchase only, and you should not because that would be a huge mistake. You should not do it, but the reality is the issues are the same. And there are 1,500 jobs at stake there, and we need to do the best we can to try to save that. But the reality is that's what happens in the marketplace, and it's unfortunate.

Again, as I mentioned, this one is a huge concern to us because of the members that we have that are particularly energy intensive, and I guess I close with this and certainly be happy to take any questions. When you look at this, I would ask if any of you are hearing from a significant number of your consumers that energy in Pennsylvania is too cheap, and I'd ask you to keep that in mind as you think about this. The reality is we've done a good job. You've heard about what competition here in Pennsylvania has done to drive down prices, and I'd allow you to continue to encourage that. With that, I'd be happy to take any questions.

CHAIRMAN GODSHALL: Representative Delozier.

REPRESENTATIVE DELOZIER: Thank you, Mr. Chairman. Thank you for your testimony. It's been informative on both sides hearing many of the issues. I just want to get your perspective on an issue that certainly has come up, and I've been hearing from a number of solar companies within the 88<sup>th</sup> District and as well as the fact dealing with jobs. And you just hit on that, so to continue on that theme, the thought process is the fact that we as a government put out there those grants. We use state tax dollars. We use many forms of tax dollars, state and Federal, to generate these jobs and to make these jobs happen. The feeling and, and some of the input that I've been receiving is their frustration that we're going to see that money wasted. We're going to see that money when these businesses now close down, and then the capability of restarting these jobs down the road. Will it cost more tax dollars? So can you comment on that from the Chamber's perspective as to the cost of creating and losing and then creating jobs again?

MR. BARR: Sure, there's a lot to that. First off, and again, to reiterate, I think what you've hit on, Representative Delozier, is one of the reasons that we oppose this from the start, because when you look down the road you see these kinds of things going on. I think the question for this body is how much more is this body willing to put into the industry to support that, knowing that consumers in the end are going to pay that? You've heard a little bit already about some of the folks looking across the street and living in your district. I see some of the same folks. I drive past somebody every night who's got a big array on their roof. You look across the street and say, you know, "Geez, they're getting that. How much more am I willing to pay on that?" You also heard some of the, you know, numbers on a, on a monthly basis or on an annual basis. Keep in mind that many ways I'm here talking about the folks who pay much, much more than that, and that the kind of changes we're talking about here have the real

potential to cause a significant increase in energy for them. So it is tough question. It really is difficult. As Mr. Fitzpatrick mentioned, do we go after some of these states that have tried to contain it within their borders? Pennsylvania could attempt to do that with the result and increase of cost to consumers. It's, it's a decision that has to be made. I think that I believe that the industry will still be there. Hopefully, those numbers will continue to decline. Hopefully, we get some breakthroughs in technology. You can read quite a bit about, you know – till we get technology and some type of technology breakthrough in terms of batteries, we're going to be at a little bit of a stalemate here. But I think it's a question that, that we have to talk about, but again it's one of the reasons why we didn't want to go down this road at the start in 2004.

REPRESENTATIVE DELOZIER: Thank you, Mr. Chairman.

CHAIRMAN GODSHALL: Thank you very much. Gene, I appreciate your comments, and thank you.

MR. BARR: Thanks for the opportunity, Mr. Chairman.

CHAIRMAN GODSHALL: Next panel is Jake Smeltz, Electric Power Generation, and Bob Barkanic, PPL Energy Source. PPL EnergyPlus, I'm sorry. Gentlemen, when you're ready.

MR. BARKANIC: Jake has to be fancy.

MR. SMELTZ: Good morning.

CHAIRMAN GODSHALL: Good morning.

MR. SMELTZ: I am Jake Smeltz, and it is very good to be back here in front of this esteemed committee that has the interests of consumers always first.

I want to thank you from behalf of the Electric Power Generation Association, because to my knowledge this is the first public hearing that's ever been held on a law that was created in 2004 that has far reaching impacts to ratepayers, taxpayers, the electric grid, and as you can see,

all other sorts of development in Pennsylvania. One of the reasons, I think, that we spend a lot of time discussing what's going on is because lawmakers, policymakers haven't had the full opportunity to review the impact of a law that they created, which I would suggest was done in good faith. But here we are, so with that I want to commend you for taking the time to understand what's going on and, and what you can do relative to what's happening.

You're not alone. California, Arizona, New Jersey, they're all looking at these issues. The cost of this technology is not cheap, and when you require someone to buy it without respect to price when the bills come due, lawmakers hear about it. So I want you to know that you're not the only ones struggling with what's happening. Actually, I forgot my clicker.

MR. BARKANIC: Now you want me to go click them for you, too?

MR. SMELTZ: That would be wonderful. We can go to the next slide. EPGA [Electric Power Generation Association] is, like EAP, a statewide trade association. We only represent generators. Our members own and operate about 150,000 megawatts of power, most of which is located in the Mid-Atlantic, but to put that in perspective, that's enough to power nearly every home in the United States. They own every type of technology: coal; nuclear; gas; hydro; hydro-pump storage, which is really neat; and solar; and wind. So I want you to know that we understand how to make electricity. We understand the markets that impact the production of electricity and what drives the cost of electricity. We operate in PJM, and, and for those who don't know PJM, it's thirteen states and District of Columbia, and it operates and is intended to operate on a least-cost dispatch system. Now, you had heard earlier that that means that it's supposed to produce the best result at the most competitive price. That's the deal that you made in 1996, late [19]96 when you restructured our industry. You pushed us out, and you asked us to compete against one another, and that's what we do every day, every hour. There are 13 – over

1,300 units that compete for running time on their basis of cost, so competition is a very sensitive and an important issue for our membership.

I want to be very clear because I think that there is a misnomer when you talk about companies that own coal or nuclear or gas fired facilities. We do not oppose the development of alternative energy. As I said, some of our members own and operate those types of facilities as well. But we do believe, very strongly, that if the wholesale markets do not function properly, they won't produce the results that you intended when you passed the law. And so for that reason, I wanted to point out that last year we opposed a law in New Jersey that would have created additional subsidization for in-state generation for gas. We also oppose an effort in Maryland to sue – to use in-state subsidies for certain types of technologies there, mainly gas, and last year you may remember that we opposed efforts to expand the AEPS Act here in Pennsylvania. Next slide.

I'm not going to relive why House Bill 1580 was introduced in the interests of time, but the bottom line is it is fully intended to additionally subsidize developers, project owners, and those who have seen the investment that they made alongside the ratepayer decline. It intends to do so in two primary ways: increase the current demand, which is set in law to reflect the current supply, and to restrict the marketplace to Pennsylvania only. We oppose the bill. We opposed the bill before the bill was introduced. We sent a letter to you fine folks back in, I think it was, June asking you not to support the bill, and the reason is fairly simple. We believe that markets need to be left alone to work correctly, that they are going to produce the best result through a competitive process. We believe that restricting the marketplace, as you've heard from others, is not in the best interests of the people who have to sign the checks at the end of every month. And we believe that this concept that's been argued – I believe this bill been, been dubbed as the



solar jobs bill that that's been far overstated, and we say that on behalf of the 20,000 employees that our companies have in Pennsylvania. Next slide.

The dramatic increase in solar was driven by the government. You heard from the previous people it was done through programs like the PA Sunshine Program, the Federal Stimulus Act, and other incentives. Government gave away a significant amount of money, and this bill proposes to fix that problem by requiring people to get – give more to this industry. At its root, that is where – what this bill represents. We don't believe that that is the answer, and let me tell you why. If, in fact, you pass this bill, you will be back here again the next time the value of the credits don't produce what the people who installed this technology expected. There is risk in every market, and that risk is very well known to my membership. In late [19]96, [19]97 when we were pushed into the competitive market, two of our members went bankrupt. Why did they go bankrupt? Because there was an over-supply on the market. They could not compete on their basis of cost given the current demand at the time. One emerged from bankruptcy. One did not. In 2009, I quite remember when the downturn occurred, and the power – the value of wholesale power dropped 45 percent. Not one of my members sat before this committee or any other and asked you for more money. That was the deal that we made, and we intend to stick to it. The only thing we ask is that you require the same of other market participants. Next slide.

Restricting the marketplace is not in the best interests of consumers, and I don't need to reiterate why. The reality is they will pay more. I'm from Lancaster County, farm country, because I like to say the best, most productive, non-irrigating farm land in the world. Can you imagine if we said to the people of Pennsylvania, "You can only buy milk produced from Lancaster County?" I can't imagine what the cost of milk would do other than go through,

through the roof. We believe as a matter of policy that a broader approach is necessary. We're the second largest electricity producing state in the nation. No other state exports more electricity than we do. We believe we need to be leaders. We don't need to follow New Jersey and Maryland and in some cases Ohio. We believe we need to set the standard, set the bar higher. I also want to remind the committee that when the original law passed in [20]04 this issue was debated. This issue was debated in the Assembly. This issue was considered by the Public Utility Commission, and it was rejected. Why? Because it increased costs.

We also believe that state protectionism is not to the benefit of, in fact, the market players. In my testimony I've included a journal article, and it's entitled, "All REC's Are Local: How In-State Generation Requirements Adversely Affect Development of a Robust REC Market." I think that it very persuasively argues that, in fact, these types of policies in the long term hurt market participants while appearing to help them in the short term. The reality is we live in one state, but we share competitiveness among many, and to the extent that we try to engage in protectionism, I think we do a disservice to the people of Pennsylvania and to the people that we purport to help by doing that. Now next slide.

Let's talk about jobs because that's actually an important topic in today's economy. I don't want to see anybody lose their job. I don't want to see someone from a coal fired facility lose their job. I don't want to see someone from a natural gas facility not have the opportunity to have a job. I want to see Pennsylvania succeed economically, and that's one of the reasons we're here. But this jobs argument, this green jobs argument, is well overstated. Let's just think for a minute. Once you build a PV panel, or rather install it, there's no one to make it continue to work until it breaks. There's no one there throughout the night, the next day to make sure that

things are running properly. So we know for a fact that there is no ongoing requirement for employment other than to build the next or install the next panel.

This, this idea that, that green jobs are – can be created is beyond overstated because most of the studies that look at this fail to examine and appreciate what happens as a result of how you get there. Do we really believe that you can increase costs to consumers, that you can take money out of their pocketbooks and create jobs, that government can do this? If that's the case, then I would suggest that the bill is too modest, that we need to be increasing the mandates because there are a lot of people out of work. We know for a fact that it's not that easy. We can appreciate that government has a role to play, but the question is how deeply do they play it?

A couple of studies, many people don't like them, particularly those that support this bill, but these were studies done in Spain and other European countries that looked – you know, countries that were on the, the forefront of renewable development, and they found the b – that the economic, the net economic impact to employment was a decrease. When you require people to pay more for something that they could otherwise get more cheaply, you will shrink your economy. You will not grow it. Now, I, I say that part of that is because there's been no accounting for the higher costs, and according to the EIA, which is the Energy Information Administration, I just got this yesterday, for new facilities coming online in 2016, solar PV will cost 4.8 times more than electricity produced by a combined cycle natural gas plant. Now, why is that relevant? Because Pennsylvania is sitting on top of an incredible resource that could provide the electricity we need going forward very economically and very environmentally friendly. Next slide.

I don't need to reiterate what my points were. I know the hour is – well, actually, it's lunch time, so I really hope the this committee doesn't engage in what I will phrase as, as such.

We cannot induce economic growth by forcing people to buy costly subsidized energy. There is no economic theory that supports this, and frankly, it defies common sense. I really hope – next slide – that you take a good hard look at, at this proposal. I do applaud – like Mr. Barr, I applaud the maker of the bill for his effort. I know he is well-intentioned. He’s a good person. Frankly, he’s very smart, but we, unfortunately, have to disagree with this. We believe that we can continue to be a powerhouse for electric production going forward, but we need to use a market pull and not a government push, or we’re going to have skewed results like we’ve seen here today. As I said, I want to have and continue to have a respectful dialogue on AEPS. At some point, we’re going have to make some decisions. I guess you’re going to have to make some decisions, and I hope that you will know that you can call on us to give you information so that you can make an informed choice about how to move forward. Last slide, there you go.

CHAIRMAN GODSHALL: Thank you. Mr. Barkanic.

MR. BARKANIC: Thank you, Chairman Godshall, thank you, Chairman Preston, committee members. I’ll echo what Jack – Jake said and Gene Barr said about Representative Ross. His leadership on this issue is to, is to be commended, as well as the representatives from the solar industry, many of whom we work with in my industry. My name is Bob Barkanic. I’m Senior Director of Energy Policy for PPL EnergyPlus. We are the wholesale and retail competitive marketing and trading arm of PPL Corporation. I am representing PPL Corporation today. That includes our affiliated electric distribution company, PPL Electric Utilities, and our renewable energy company, PPL Renewable.

When we wrote these remarks weeks and weeks ago, they were brilliant. We’re last, and now they seem kind of redundant, and I’m checking them off. As I’m checking them off, Jake’s

got three or four here. Gene had a couple there. Terry Fitzpatrick had a couple there, but I'll try to summarize them, perhaps in a little different perspective, but be brief and respectful of time.

Three things we wanted to address: the renewable energy credits, the impact to consumers, and then the impact to the overall competitive market. As others have said, revenues are generated by these facilities by the energy price themselves, plus the renewable energy credit, or in solar's case, the SREC. SREC prices have dropped dramatically from greater than \$400 dollars a REC to less than \$50 dollars a REC or megawatt hour may – and predominantly because of the over-supply that the government infusion of money with grants. The incentives worked. We got what we wanted. We infused the system, and we have a over-supply, and supply and demand works, as well. That's great for consumers. Consumers benefitted by – from an 83 percent drop in SREC prices. To the tune of hundreds of millions of dollars, consumers benefitted. The bad news is developers don't benefit from that. So this is, this is the crux. The core issue of House Bill 1580 is the shift of that benefit from consumers to developers. [HB] 1580 would eliminate that savings by accelerating the REC requirement and by making eligi – limiting eligible projects only to Pennsylvania, like other states have done. Over the next three years or so if this bill were to pass, consumers would pay hundreds of millions of dollars more.

The implications for the competitive markets – there's implications for competitive markets, as well. First, there's risk that investors will move from companies that are willing to take market risks to companies that are looking only for guaranteed returns. As Gene said, Gene Barr said government policy should not pick winners and losers. We are clearly getting today's or yesterday's technology. We're not looking for future technology, and all that does is force investment into uneconomic options. Third, this is not the time to be burdening consumers with additional costs, regardless of what the numbers are. And the numbers are all over the place

because we're all doing estimates, but regardless of that, we should not be burdening consumers with additional costs. Fourth, closing the state borders is neither sound energy policy nor sound business strategy. Energy is a regional commodity. As Jake mentioned, we are an exporter of electricity, including renewable energy. Finally, these changes create uncertainty in the market, and uncertainty increases risk. Risk increases costs, and, and Jake said this, as well. I don't think this is the only time we'll be here. I think we will be back. Any time the guaranteed returns aren't realized, we'll be back right here in this room. The bill would set a precedent and expectation that whenever returns aren't guaranteed, we would have to amend the law again. Pennsylvania has seen and will continue to see renewable energy investments if we let the markets work. That's what would be best for consumers. We thank you for the opportunity to testify, and we'll be happy to answer any questions you might have.

CHAIRMAN GODSHALL: Briefly I just have one question. In addition to paying the cost of the energy credits, do electric – I know electric ratepayers pay for energy in other ways because of regulation. Very briefly, what on top of the energy credits are, are ratepayers paying now because of regulation, government mandate?

MR. SMELTZ: I mean – well you know one is actually an issue that was raised earlier, and that's a law that was enacted a few years ago in [20]08, Act 129. I think at the cost of the ratepayer was about a billion dollars, although it's intended to return more to ratepayers because it has a benefits test. I actually have always described this particular program, AEPS, as having a deeper impact on ratepayers and taxpayers. First, as a taxpayer, you pay for the initial grant that comes from government, you know, those PA Sunshine Programs. As a ratepayer, you pay for the recovery of the cost of the renewable energy credits as your electric bill goes up, and you – because of the, the higher cost of the credits versus what you could have otherwise purchased,

you pay more in state taxes because of the levy of a gross receipts tax on your bill. And as more people can't afford electricity, they end up on what we call customer assistance programs, which are run by utilities, and ratepayers pay for those too. So unnecessarily increasing the cost of electricity has far-reaching impact beyond just the renewable energy credit discussion today.

CHAIRMAN GODSHALL: Thank you, any other questions? I don't believe so, and I thank you, gentlemen.

MR. SMELTZ: Thank you.

CHAIRMAN GODSHALL: Appreciate, you know, your support here and coming out here today. Another panel, the last panel we have is Andrew Kleeman, Senior Vice President of Mercury Solar Systems; Dean Musser, President and CEO of Tangent Energy Solutions; and Josh Goldberg, Vice President of Astrum Solar. Gentlemen, you can start when ready.

MR. KLEEMAN: I was going to say "good morning," but I'll now say, "good afternoon," Chairman Godshall, and thank you for hearing us.

CHAIRMAN GODSHALL: Identify yourself for the record.

MR. KLEEMAN: I am Andrew Kleeman. I serve two roles in the solar industry. I'm a Senior Vice President with Mercury Solar, which is a regional firm stretching from Boston to Washington, D.C., and I also sit on the Board of the Pennsylvania Solar Energy Industries Association. I have submitted some extensive testimony with some reports attached to it. I'm not going to go through that. I just want to make some very brief points in deference to how long this hearing has already run.

I wanted to touch on three items. The first was the, the real impact on real people of the solar industry in Pennsylvania collapsing. The second would be the actual costs that are

involved with 1580, and third, I wanted to mention the concept of free markets, which has been mentioned by many of the – much of the testimony today.

I want to share with you the reality that Mercury Solar Systems came into Pennsylvania by acquiring EOS Energy, which is a firm that I had started. Mercury made very substantial investments in their Pennsylvania presence based on the existing structures of what was in place with terms – in terms of subsidies and commitment on the state level to growing a solar industry, and those investments have not panned out very well. Mercury in the past six months has gone from forty-two employees in the Philadelphia Region down to two employees in the Philadelphia Region, and in my role as Board Member of the State Professional Organization, I am certain that this trend is not unique to Mercury. It is rather indicative of what's happening in the industry today.

There's also been talk about many jobs at stake in Pennsylvania, and unfortunately, that's true, that have nothing to do with solar. The difference is that the solar industry got a boost at substantial expense to the taxpayers of Pennsylvania, and we are risking flushing that money down the toilet if we don't implement 1580 as currently amended.

The investment that the Commonwealth made has been wildly successful, not just in terms of jobs and solar power systems built, but Pennsylvania has been a leading state to help drive the cost of solar down. The cost of solar since I entered the industry approximately four years ago is about half of what it was. The subsidies were not intended as a long-term support for the industry but to give a nascent industry an ability to launch and drive its own pricing down. And we're so close. In Hawaii today, we can build solar at the same cost of retail energy. We're not there in Pennsylvania, but we clearly are on the right track. If we fail to implement



House Bill 1580, we will start this whole industry over again three years from now when the AEPS has a demand for SREC's then higher than the existing built base can support.

Secondly, I wanted to mention the actual costs. There has been a recent amendment by Representative Ross which makes the increase in SREC's neutral. So I think all of the talk we've heard about cost is really negated by this recent amendment that takes the SREC's from the back end of the schedule and puts them where we need them desperately to prevent the industry from collapsing under its own weight today. So long-term costs, I just don't see the issue anymore, but even if the bill was not amended, I think some of the cost estimates we've heard are just wildly political in all respect. A couple of the surveys or studies that have been presented here today assume that SREC's trade for \$300 to \$600. That's really never been true in Pennsylvania and will not be true with or without this, this change to the AEPS. There's also some reference to, perhaps, installers committing SREC prices and promises that were never realistic. I can tell you at the beginning of the AEPS Program and the Sunshine Program, EOS Energy and, and every other competitor I'm aware of was projecting \$150 to \$200 SREC's and was clearly driving the point that this is a market-driven subsidy, long-term subsidy.

The third item that I'd just like to touch on is the concept of free markets. It is a important philosophical issue, but let's be intellectually honest. Government is involved in all aspects of the energy industry. There is no true free market in the energy industry. [HB] 1580 does not remove market mechanisms from the SREC industry. It sets a reasonable base, a critical adjustment that is necessary, because all of the subsidies that were supporting the industry came off in the same two quarters of last year. Even the New York Stock Exchange puts a stop on its losses if the market is headed for a complete collapse.

And the other point I would like to make with respect to this philosophical issue is even one of the iconic supporters of free markets, Governor Christie on the other side of the river, has recently come out in direct favor of modifying the New Jersey RPS in deference to its oversupply, and this support is clearly articulated in the recently released New Jersey Energy Master Plan. [HB] 1580 has virtually no long term costs to the ratepayers or to the Commonwealth, yet it preserves a very prudent investment this Commonwealth made in renewable energy with the 2004 Act. Thank you.

MR. MUSSER: Dean Musser, the President and CEO of Tangent Energy Solutions. Chairman Godshall, Chairman Preston, and other honorable members of the committee, thank you for giving me the chance to express our views, Tangent Energy's views on House Bill 1580. Tangent is a successful Energy Services Company located in Kennett Square, Pennsylvania. We bundle the, the base of the building of energy assets, such as solar and gas-fired generation, for our large industrial and institutional customers. We bundle that with technology like demand response and know how to lower their overall energy costs. We do this with no capital cost coming from the customer themselves. We've raised about \$175 million dollars of project finance money, most of that as money coming from European Pension Funds that are invested into these projects and will own and operate these projects over the life of the, of the agreement, which is typically 20 years. All the customer has to do is basically buy the power that we produce.

To date, we've deployed about \$20 million dollars of that in Pennsylvania, and we've created 50 jobs just in this past year in 2011 in the Commonwealth. But unfortunately, due to the SREC issue, we're going to – we basically shut down any additional projects in Pennsylvania

and are moving that, that project finance money to the states of New Jersey, Massachusetts, and Ohio, and possibly even Maryland.

A couple of things that I'm – I would like to address. I'm actually going to change what I've said here in my testimony because it's been, I think, talked about maybe at nauseam at some points, but there are a couple of things that I think we want to – I want to address. And one is the, the aspect of competition, and the state, the in-state requirement, I think, is a pretty important one. We – as Tangent we're a member of PJM. We would support a PJM Regional Market. Unfortunately, the rest of the states around us have closed their borders. There's only a finite amount of project finance, investor-type money that is looking to put their money in solar. So we compete with every other state, and that means our jobs compete with every other state for this project finance money. The mandate basically has produced the best project that you can produce with a return on investment typically between 7 and 9 percent in IRR [internal rate of return]. If we can't do it in Pennsylvania, the money just shifts to another state and so do those jobs.

So the other thing that I would like to address is the, the issue with regards to – you know, solar is expensive. Solar connected to the grid from a distribution perspective at the customer's site can actually be, you know, an overall lower cost to both the grid and the end use customer. We recently finished a project in the Allentown area where a school district will save \$3.8 million dollars over a 20-year period. That's real money to a school district, but more importantly, for the overall grid perspective, this, this asset was actually built on very stressed distribution lines. So those distribution lines from the utility will not have to be upgraded in the, in the near future. Therefore, there will be no incremental costs going back into the rate base for these, you know, for these assets. So if you look at this in total, you know, I think it's important

that we look at this from a holistic perspective. We need a blend of all different types of energy, and we support that at Tangent, but we also have to look at economics for customers. There are some major customers in Pennsylvania that are saving significant amounts of money by installing solar on their site without taking the SREC risk or putting their capital out through this project finance type, type of model.

As a resident of the Commonwealth, you know, it really disappoints me that I have to take this money that we have raised and direct it and all the economic benefits to a different state. You know, we – one contractor alone last year had to hire 25 people to support our projects early in 2011, and to go and tell them, “I’m sorry. There is no more in Pennsylvania. It’s now going to be in Massachusetts.” That’s a difficult conversation for somebody that’s made a great effort in, in building a business. So thank you for your time and for me – giving me the opportunity to provide these insights.

MR. GOLDBERG: My name is Josh Goldberg, and I’m a Vice President and Co-founder of Astrum Solar. Good afternoon, Chairman Godshall, Chairman Preston, and members of the committee. Astrum Solar is the largest residential solar installer doing business in Pennsylvania, so our core business is installing solar systems on your constituents’ homes. That’s what we do. We don’t do large projects. We’ve been serving homeowners in Pennsylvania since 2009. And we have approximately 50 employees in Pennsylvania, and when we entered the market in 2009, we had none. And today we have 50 employees in the state. These are all high-skilled, high-paying jobs for many people who, prior to the emergence of the solar, solar industry, were actually unemployed or looking for work. And we’re just one of many of hundreds of companies serving residential solar in the state. That’s hundreds of companies creating jobs in the State of Pennsylvania.

I think people have sort of been through the nitty gritty on this bill many times, so I'd really just like to sort of focus on the human angle and the job angle of the bill. The jobs at Astrum Solar and our other companies create a real job because, again, we went from zero jobs in the state two years ago to fifty jobs today. And the only thing keeping us from going to one hundred jobs next year is the passage of this bill. And I think one thing that's really important is that the jobs that a company like Astrum Solar creates are jobs that can never leave the State of Pennsylvania if the economics for solar work because we are selling to homeowners in Pennsylvania at their kitchen table. We are selling to homeowners in Erie at their kitchen table, and we are installing on homes in Scranton. You can never take those jobs and move them to China. You can't move them to New Jersey. You can't move them. They have to be in the state, and they're good, paying jobs that provide good benefits in an emerging industry.

And I think that it's really important to think about who these people are and where the jobs are, so our jobs are in Norristown. They're in Erie. They're in Pittsburgh. These are electricians. These are installers. These are administrative. They're engineers, and they're sales, and they sort of are a wide variety of jobs in our industry. The jobs are across the state, and I think most importantly, too, the – our customers are across the state. Residential solar is something that your constituents want, whether it's in Erie, or Pittsburgh, Washington, Scranton, Gettysburg, or Philadelphia. There are over 5,000 residential homes in the State of Pennsylvania that have gone solar in the past year and a half. People want solar, and I think they don't need a guaranteed return. We've talked about "need a guarantee." They don't need a guaranteed return, but they need the fair opportunity for a reasonable return, and right now they can't have that. And I think what House Bill 1580 does is it's a really reasonable way to add some costs but also to provide a reasonable return to allow our industry to continue to, to grow and allow the people

who have already gone solar to help kick start the industry to realize the reasonable return that they would like to get. These aren't people trying to get 10 and 20 percent returns. Our average homeowner wants an eight to ten year payback. They'd be happy with a 5 percent return. They're not trying to get rich by doing this, and I think the other thing is that people go solar for a lot of different reasons. It's not a blue or red or liberal or conservative issue. It's that the citizens of Pennsylvania are from all spectrums of society. They want this. They want to work in the industry, and they want to put it on their house because this is a great way for them to hedge rising energy costs.

And I think I'll sort of conclude when thinking about the costs of the bill, and there is a cost, and people have debated what the cost is. It's really important to consider what the return is. The return is, is job creation. It's citizens hedging their energy costs. In, in 2011 alone, including use tax and wage tax, Astrum Solar contributed a million dollars to the State of Pennsylvania. That is real money that if an industry doesn't exist in the state we will not be paying to the state, a million dollars in 2011. If our business doubles, that would be \$2 million, so the state is also reaping the rewards of the growth of the solar industry. And I think Andrew mentioned Governor Christie. I think when he first took a look at solar incentives, his reaction was, "Why are we incentivizing this?" And he was somewhat negative at first, but when he actually took the time to look at the benefits of that – what the benefits of that subsidy have created in New Jersey from homeowners who have gone solar, businesses, and all the jobs it's created, it became very, very clear to him that solar was something that the State of New Jersey was, was – should support because the return and the dividends on their investment were so strong. And I hope that you will come to that same conclusion. So thank you very much for the opportunity to speak today.

CHAIRMAN GODSHALL: Fact of the matter is I think you know we also felt it was important. That's why we passed the Alternative Energy Portfolio Act in Pennsylvania in 2004, and the pro – the right now the, the situation we're in is how much more money are we going put in it and who is going to be paying for it? You know, that's the situation that we have. So, you know, I – you know, you're an installer, you said, where – who – where are these the panels manufactured? There was nobody here today – I was wondering where do the pa – where do the panels come from? Who manufactures them?

MR. MUSSER: Actually, all of the Tangent installations in Pennsylvania, the panels are manufactured in Newark, Delaware by the old G.E. [General Electric] Energy Plant, so.

CHAIRMAN GODSHALL: Where, I'm sorry?

MR. MUSSER: Newark, Delaware.

CHAIRMAN GODSHALL: Is that where the bulk of the panels are – you know, that are used here in Pennsylvania come from?

MR. MUSSER: That's where Tangent has purchased all of their panels. I can't speak for anybody else.

MR. GOLDBERG: I think that you'll find that it is a mix. A lot of what we use is made in America, and a lot of what we use is not made in America.

CHAIRMAN GODSHALL: Okay.

MR. KLEEMAN: I would agree with Josh. It's a, it's broad mix.

MR. GOLDBERG: But I think that the – from our business, the jobs that we create, the sales, the installation, those are jobs that always have to be in Pennsylvania. They can never go anywhere else because we're selling and installing on homes or businesses in the State of Pennsylvania.

CHAIRMAN GODSHALL: Okay, Representative Kotik.

REPRESENTATIVE KOTIK: This will be brief. Chairman Godshall, you kind of stole my question away from me, so I'd just like to thank you for testifying and say that it's been very informative this morning. Thank you, Mr. Chairman.

CHAIRMAN GODSHALL: Representative Perry.

REPRESENTATIVE PERRY: Thanks, Mr. Chairman, and the two of you took my question, but regarding where the panels are constructed, but I'd just like to add. I don't – somebody might want to Snopes this or something, but to my understanding that we got about 120 kilowatts installed on the Farm Show Building, where the installer's required to use U.S. Steel and had that certif – those certificates for that but the Chin – the panels were made in China, and so anyhow I just wanted to throw that out there was as long as we are talking about jobs and, and the solar industry in Pennsylvania. Thank you, Mr. Chairman.

CHAIRMAN GODSHALL: Representative Stephens.

REPRESENTATIVE STEPHENS: Thank you. Thank you for your testimony, gentlemen. I have a – isn't it the case that with each new installation that you're almost working against yourselves? Because with each new installation, obviously, the value of the SREC's would be decreased, right? So for the – I guess my point is for each new installation, you actually create a competitor for all those that are already in the market that are selling their, their SREC's, right?

MR. KLEEMAN: Conceptually, yes, but the AEPS increases the number of SREC's required each year.

REPRESENTATIVE STEPHENS: So I guess to some extent by making the argument that we want to continue these types of jobs and we need to do this to move these jobs forward,



we actually further exacerbate the problem of the depressed value of the SREC's, which is what is the reason that the bill being offered. Am I right, or am I wrong? And I can be wrong, it's okay.

MR. KLEEMAN: I think you're correct in your statement but respectfully not correct in your conclusion that you're taking away from it.

REPRESENTATIVE STEPHENS: Okay.

MR. KLEEMAN: What has created the current urgent situation is not the SREC pricing alone. It is all within a very short period of time, the Federal 1603 Program ended, the Sunshine Program ran out of money as it was expected to, and the CFA Program expended its last dollars. So even though the cost of solar was coming down rapidly, all of these issues, all of these support mechanisms ended at the same time, and that is the only reason that the SREC price is so critical today. Should a similar over-billed occur four years from now, we won't have that perfect storm of everything ending at the same time, and we won't be back here.

REPRESENTATIVE STEPHENS: But I guess just to, to wrap it up, each new user that comes online actually depresses the value of the SREC's, right?

MR. GOLDBERG: Yeah, and I think that that's okay if it occurs in a linear manner.

REPRESENTATIVE STEPHENS: Okay.

MR. GOLDBERG: What we can't have is a cliff. And so Chairman Godshall mentioned that you gave us grants, so those \$100 million dollars of Sunshine Grants, we're not asking for a renewal of that program. We don't need those anymore. What we need is a reasonable SREC price, and the reasonable SREC price needed to develop solar will be less next year than it is today, and it will be less two years than it is next year. And it will keep declining over time as we grow as an industry and drive down our costs. So fifteen years from now, we, we won't need

SREC's at all, but we're in a position where we do need an incentive today, and we can't have a cliff like we just had where we're going from reasonable pricing to basically non-existent pricing.

REPRESENTATIVE STEPHENS: And, and I guess one last question. Would your industry accept a requirement that you only use Pennsylvania-made products in Pennsylvania the way you're suggesting we ought to approach closing the borders as it relates to electricity?

MR. MUSSER: Well, I think if those, if those products are market-based priced, we would have no issue with that. Again, we're competing against other projects in other states, and so that's, that's the real fundamental difference here is that you ha – to put a project forth to get it financed, you're competing against, you know, everybody in, in the states and the Northeast and the Mid-Atlantic, so you must put a project that has a reasonable return on the table, or it's not going to get financed.

REPRESENTATIVE STEPHENS: But, respectfully, don't you think it's, it's hypocritical to say you want to market-based price for the products you, you're buying to operate your business but the ratepayers of Pennsylvania shouldn't expect a market-based price for, for the energy they buy?

MR. MUSSER: I am already on record saying I support a regional market for PJM. If PJM wanted to do a SREC market across the whole region, I'd be totally in favor of that. The issue has become the other states have put, have put in unfair practices, and now Pennsylvania suffers, and Pennsylvania jobs are suffering. If we could handle this bill in the way that I think it needs to be done and actually get it approved and then the states want to get together and work with PJM to open up a regional market, I think that you would get most of the solar folks would be supportive of that because it would be a more liquid market for us to operate in.

REPRESENTATIVE STEPHENS: Okay, thank you.

CHAIRMAN GODSHALL: You know, I was really – you know, with the slandering of situation that we had, you know, who manufactures it in this country and couldn't compete, apparently, with China. You know, you people are not using any Chinese product, you know, or solar panels you saying?

MR. KLEEMAN: No, that was not my testimony. We do use several different Chinese modules, as well as European-made modules, as well as U.S.-made modules.

CHAIRMAN GODSHALL: Because I understood that a lot of this stuff today was Chinese coming into this, you know, coming into the country replacing American, again, workers.

MR. KLEEMAN: Actually, the U.S. solar industry was a net exporter of products in 2011. It's a surprise to many people.

CHAIRMAN GODSHALL: Somebody should have told that to Solandro, I believe. Mr. Representative Barbin.

REPRESENTATIVE BARBIN: I've kind of kept quiet at this point. I understand the solar industry's a good industry, but the questions that have been asked are real questions for real people that are looking for jobs, and the bottom line is you're asking as public policy for us to provide additional subsidies to an industry, and it is a fact that China at the same time that we're providing this, you know, subsidy has a tariff on all environmental pollution control equipment from the United States. It is a \$6 billion dollar industry, so it does make a little more than – it is important to say where these things are coming from, and if they're coming from China, and then we're putting them in, and we're paying for that subsidy there's something wrong with that. And until that's straightened out, I have a hard time understanding why, you know, it should be the

policy of Pennsylvania or anywhere in the country to support that. And for that reason, I don't know how you can support additional subsidy at this point until you rectify that problem, and it is a problem.

MR. MUSSER: Oh, I think the, the net exporter from the U.S. perspective is a big deal. If you – there's a – one of the world's largest chemical companies just south of us that makes most of the, the pastes and the dopes and the back plates that go into solar panels, they have a huge, huge plant in Ohio that supports the entire, entire Chinese industry from the solar perspective. So most of the components, besides from the silicon wafers, are actually made here in the U.S. So it's, it's a bigger broader picture, I agree with you, that, you know, we should have fair trade across all these, these nations, but I think you got to look at the industry as a whole and look at some of the jobs that are created here in the U.S. by supporting that industry, as well.

MR. GOLDBERG: Yeah, I think that there are lots of manufacturing jobs in the U.S., but there's also lots of sales, engineering, service, and design jobs in the U.S., as well, so I'm not sure that it's fair to say that until we solve the bigger problem with trade with China we're not going to support all those other jobs that are currently in the State of Pennsylvania. So, yes, you're right. It is a problem to solve, but I don't think we can wait because there are lots of people who are currently employed in the industry in the U.S. and in Pennsylvania today who need help. And I'm not sure it's fair to tell them, "Wait ten years until we solve our, our more global trade problem with China."

CHAIRMAN GODSHALL: Thank you, gentlemen. Thank you and – for coming down here today. We have a final presenter, and I was advised late yesterday afternoon that David Fein from the Retail Energy Supply Association, the final presenter, would not be able to attend.

Their testimony is important and extremely relevant to the issue and will be included in the record. However, I'm replacing Mr. Fein on the agenda and – with Charles Fullem, who will discuss Mr. Fein's testimony and any other comments he may have. Mr. Fullem. And you are a willing substitute.

MR. FULLEM: Mr. Chairman, I am glad you characterized it that way. It is an honor to step up again, and, and I would say that I will try to keep this brief, but I thought RESA [Retail Energy Supply Association] made a couple points that hasn't been made today, which may be hard to believe having been here since ten o'clock, but I think that are important. One is RESA. As we know, we've made a competitive market for Retail Energy Association in Pennsylvania. They recom – they represent suppliers who supply electric energy to customers of the EDC's that I'm representing here today.

But they made two points. One is that, one of the points is that they use solar and green as a differentiation. So while AEPS is a minimum requirement of what percentage of all customers' load must be provided by solar, it is not the limit that they're – and some RESA members successfully market green energy to customers, which, which create demand as other gentlemen say constituents wants solar. Well, to the extent that constituents want solar, there are RESA members who will market solar energy to them over and above the requirements of AEPS. So it's a market mechanism to get to the goals that have been outlined by the solar industry today to increase demand. Secondly, RESA raised a concern regarding timing, specifically the change in the law to impact the amount of solar requirements that would be in – required for the period ending May of [20]13 and May of [20]14 would adversely impact contracts under a fixed price basis that they already have with buyers. And unlike utilities, they would not be able to pass that on except for instituting certain clauses within their contract. So

they might have to eat those costs, so they've asked for a delay, potentially, in any increase because we're in a timing where they've already committed fixed prices to customers.

And I found that interesting because First Energy is in a similar situation to RESA in that we have already filed our plan. We, we committed to buy 40 percent of all of the SREC requirements within our footprint for both our customers that do not shop and customers who shop as part of a merger agreement that we did with Allegheny Power was part to help, again, stimulate solar development, and we've already, as I said, earlier filed that plan at the Commission on how we would procure that. Beginning in June of [20]13 with the purchases beginning in January of [20]13, to the extent that the law would change and increase those requirements, while RESA would to the extent they're selling under a fixed price would end up eating those costs. We would have additional administrative costs to have to go back to the Commission and re-file that portion of our, our case, just because there is a lead time in terms of trying to acquire and meeting your needs. And we have a fixed amount that we're trying to acquire for that period of time already in place.

So I thought those were very points that RESA had made that had not been talked about today. I would make one other comment. It was said that the \$300 to \$600 price is not – was not true in terms of SREC's. I could say that the first 10,000 REC's that Met-Ed and Penelec bought under long term contracts were at an average of \$286 dollars per REC. There were REC's that we purchased within that that were above \$300, so the \$300 dollar number is, in fact, a good number to use. Maybe not today, but, but it is a reasonable number to use in terms of what the – for economic analysis that we're doing. And I just make sure that everyone's sure – clear that I'm not a member of RESA and testifying on its behalf but as a utility looking at their comments just found those two points particularly a different and on point.

In closing, I think you know we all have to recognize that public policy tension that exists. I think we've all seen it here today between those supportive of solar energy to generate electricity versus customers who may be less willing to pay higher electric bills. During a time of – and in this difficult economy, and, you know, we're in a time where customers are trying to stretch their energy dollars as far as possible, and I think you've got an important decision to make in weighing that balance between further stimulation of an industry versus higher prices that will result, and I thank you for having me back up.

CHAIRMAN GODSHALL: Thank you very much for pinch hitting. Are – you were finished with – at this point?

MR. FULLEM: Yes.

CHAIRMAN GODSHALL: Okay, thank you very much. I would like to extend my thanks to all of today's presenters. I received – on January 9, 2012, I received a letter from the Governor's Office regarding the bill, which I, because of time, I will not read in the record. We're going to put it into the record. I also note that written comments were submitted by the following parties for inclusion in the record: The Public Utility Commission, two letters; The Pennsylvania State Grange; Star Rock Dairy, Inc.; PennFuture; Energy Systems & Installation, Inc.; SunLion Injury – Energy, excuse me; and Walmart.

And it's clear from the testimony heard today there are a number of factors that we must take into consideration when evaluating the merits of House Bill 1580, and encourage the members to call upon committee staff and interested parties as necessary to receive information education on this issue. I will say that I, I know there is supposedly an amendment that was mentioned that was introduced. There is no amendment, I don't believe, at this time introduced. There is an amendment proposed, I think would be a correct term. I believe that's correct, and if

– and that hasn't been, you know – we haven't had a chance to peruse that amendment. I have no idea, you know, how that would affect, you know, the bill as it exists today, which was the subject of this hearing. And are there any questions? If there's no other questions, meeting's adjourned, and I appreciate, also, the people that sat here through the two and a half hours that we had here today.



Meeting is adjourned.

(Whereupon, the meeting adjourned at 12:40 PM)

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