In The Matter Of:

COMMUNITY SOLAR ENERGY PILOT PROGRAM
AFTERNOON SESSION

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COMMUNITY SOLAR ENERGY PILOT PROGRAM

STAKEHOLDERS MEETING

BOARD: KENNETH J. SHEEHAN, Director
MICHAEL WINKA
ARIANE BENREY
EMMA YAO XIAO, ESQ.

DATE: JULY 24, 2018

TIME: 2 P.M.

PLACE: RUTGERS UNIVERSITY COLLEGE AVENUE
STUDENT CENTER
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New Brunswick, New Jersey 08901

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A P P E A R A N C E S:

A P P E A R A N C E S (Cont.):

MR. SHEEHAN: This is Session III, Value of the Credit. This one I think we're going to start off with a presentation from Rutgers, our hosts. Clinton Andrews, I think, is going to be...

AUDIENCE MEMBER: He walked out.

MR. SHEEHAN: Okay. Clinton Andrews will present the first chunk of the next presentation on Session III.

MR. ANDREWS: Okay. Thank you very much, folks. We've been asked by the Board of Public Utilities' staff to help think through the financial assumptions that are relevant for setting public policy in this area. And it sort of requires us to put ourselves in the heads of solar developers who might be interested in community solar projects, and try to think how does it pencil out, what are the key factors that determine whether a project makes sense to pursue or not.

And so what we are doing, and we are asking for your help in this, is

trying to figure out what are those most important parameters and what are the reasonable values to assume in sort of the financial modeling that can then form in policy development.

And so we want to approach this subject in four parts: Introducing our overall objective, which I've already previewed, talking about the major inputs that we are imagining would go into a financial decision-making, and there's a bunch of uncertainties that are associated with them as well to see if we can get a handle on what those are. We'll talk briefly about a modeling platform to pull us all together and then to discuss what are the most important, most salient things, what did we miss and basically get the conversation in this portion of the -- of today's event going.

Okay. So what we're after are to understand the financial concerns for the New Jersey context. And so some of you who are developers have experience

elsewhere with Community Solar, some of you who are developers within New Jersey have experience with solar, but not necessarily with Community Solar. And so among us we're hoping to find the right mix of values for key items. We're going to put all this into a publically available model that some of you may be familiar with that comes out of NREL. It's been pretty well vetted. And then we're going to do a lot of what-if analysis in assisting the BPU members and policy members.

So the basic model, pretty straight forward, there are costs associated with producing electricity from solar sources, and there are revenues, and if there's a net -- when you subtract revenues from costs, that means it's probably not going to fly as a solar project unless there's some form of incentive provided.

And so we're basically asking the question under what circumstances is there likely to be a financial shortfall

and then what circumstances is it going to be something that the market just takes care of without us -- without state government needing to get heavily involved.

And so to make this clear, this is not an economic analysis of intangible benefits and avoided omissions and stuff like that. This is a much more straightforward business type of analysis that we're doing that sort of establish an initial basis for developing policy.

Okay. So here's the big picture of the modeling platform. It gives you a flavor of the inputs and possible outputs. And so we have solar costs, which include major items like the purchase of panels and other equipment. We, of course, have some exciting new policy developments to deal with that range from tariffs on Chinese-made panels through to a tax reform bill, which has changed lots of people's assumptions. And then we know that

there are labor costs and soft costs that we've developed some experience within New Jersey in understanding, but those might be different in some ways for the Community Solar case.

There are some other things which have historically been not particularly important but might become important in the Community Solar context, and one of those is whether we have to buy or lease land or rooftop or a parking lot. All of those might become significant, and we're hoping you will tell us.

There are costs of capital assumptions that we will be needing to make, and that means we're going to have to be making assumptions about what sorts of structures, what proportion of debt and equity are people playing with. There's the ongoing costs once you've got the thing built, and then an important difference for Community Solar is going to be customer acquisition, is this a significant cost or is it a minor

cost. Is it something that we need to pay attention to and we're hoping you will tell us that.

All of that we are able to transform into a cost of electricity to provide a kind of a benchmark for assessing the relative importance of things and for doing our what-if analysis. So that's the cost side.

On the revenue side there is a world of possibility because this is an area of active policy making, and the rules of the game are going to determine what sorts of revenues are possible. And so we are bracketing those possibilities with four scenarios here. We're hoping you will tell us if those are the right scenarios to represent the range, and you might even have opinions over which scenario you prefer.

So at one end of the spectrum we might imagine that Community Solar is not eligible for SRECs, and it's also not eligible for net metering. In other words, what you get is the wholesale

price of electricity. On the other hand, you might imagine a more lucrative world from the solar developer's perspective where SRECs are still there and they're still valuable, and you also are able to do net metering and able to basically sell your electricity at wholesale -- at retail.

And then there's all sorts of mix-and-match possibilities between those. And those are going to yield quite different revenue projections that range probably by a multiple of three or four. And we want to make sure that we've understood whether this is really the full range that we ought to consider and what you think of them.

And then costs minus revenues, yields, the potential shortfall that might need to be made up with additional public policies or might yield a signal that Community Solar is going to fly.

Okay. Let's dive into the next level of detail now, and I'm starting with some historical data. This is New

Jersey's capital and installation costs for a variety of different sizes of solar installations across the three major utility territories for the year 2017.

Just picking one number, for installations that are at the 100 kilowatt size level, the mean installation cost is $2,974 per kilowatt in the PSE&G service territory in 2017. But the standard deviation is $753. So, in other words, there's a really wide range around that 2,974 amount, which suggests that the basic cost to have an installed solar system actually varies a lot from installer to installer to installer. And we need help figuring out what that means and how we should account for that uncertainty in policy development.

Another source, and you know, this is an area where both Lawrence Berkeley National labs and the National Renewable Energy Labs have, over years, done a lot of good work assessing the

changing cost of solar. This particular slide is taken from NREL's benchmark study of about a year ago. And just to be clear, we're not using the total dollars per watt number because it's been superceded by more recent experience, but we are finding the distribution of costs into profit, sales tax, labor, balance of system inverter, module, and everything to be a plausible distribution. And if that's not a good assumption, we hope you'll tell us.

There are substantial differences, especially as we get into Community Solar. We can imagine rooftop installations, we can imagine ground-mounted installations, and we can imagine canopy installations, such as we have over on the Livingston campus of Rutgers, where we have covered the parking lots with solar canopies and everybody likes to park their car under them on days like today.

There appears to be a cost premium associated with canopies, and

what we've seen is that, depending on which source you look at, we're talking, you know, maybe a 30-percent premium for canopies. If you have information that suggests otherwise, please let us know.

In January we saw the beginning of the trade war. It's in the newspaper every day now, you know, the latest news as of lunchtime was that you soy bean farmers no longer have to worry because there's going to be an extra package of subsidies directed at soy bean farmers, and so we'll buy you off one by one. So far they haven't said if there was going to be subsidies for solar.

But anyway, a 30 percent tariff on imported solar cells from China represents a significant increase in the cost of that component, but the question that we will be -- that we're posing to you is does that add up to a significant change in the overall attractiveness of solar, given that you also have all of the other components that do not necessarily have the tariff, and you

have the labor costs and you have all the other bits. And there's nothing in the way of peer review work on this, but the trade press is suggesting we'll be seeing price increases somewhere between 10 and 40 cents per watt. So we'll be interested in what assumptions do you think we should be making in this area.

The Investment Tax Credit. The new tax bill has continued something that was actually started earlier that's saying, well, currently 30 percent of installed costs are eligible for investment tax credit, but that is going to step down over time until we -- in the year 2021, which is not that far away, where, as we understand it, residential investment tax credit is going to go down to zero, and for commercial and industrial it's going to drop to 10 percent and stay and flatten out there.

There are some additional accounting games that people regularly play that we here in the ivory tower

probably dimly understand, and we will be asking for your advice on what are the reasonable assumptions to be made there. You know, can you include the credit in the same year that construction begins, and that kind of thing.

And now we'll go on to -- we searched and searched and debated, broke down numbers, erased numbers, and decided to end up with this slide that says we don't know, we hope that you do. How much does it cost to acquire a customer? What is the -- what is a good churn rate to assume and how does this change if you're talking about low- and moderate-income participants compared to others, and how do all of these affect not only what we should assume regarding the actual cost of acquiring a customer, but what's the typical size of a customer.

And then as we think about the different ways that Community Solar can be implemented, one is to pretend that

it's just a giant residential installation that's kind of distributed in its ownership. And then should we be assuming that acquisition costs are similar to experience that New Jersey has with residential installations, or is it really a different model that is going to be related to some other metric, you know, or some other analogy, or do we have evidence from other states about what the reasonable values are.

Switching over to the revenue side, I mentioned those four scenarios, eligible for SRECs or not, net metering or not, and here are some plausible numbers to give you a little bit of the flavor of how much a difference it makes to revenues. So in the no net metering, not eligible for SRECs world, that would suggest that we're down in the 5 cents a kilowatt range. That's typical wholesale price. Unless you tell us otherwise, unless you tell us that's a bad assumption.

If we think about bringing SRECs

into the picture, the current value of an SREC, looking at the one-year average prior to today, is that they're in the $200 range. So does that suggest we should add 20, 21 cents to the kilowatt hour plus the 5 cents for the wholesale, and is 26 cents a reasonable assumption, or should we discount future SRECs because we're seeing that market phasing out.

All of this is, of course, open to public policy-making as well, but all of you who are in business are making assumptions along these lines right now to try to figure out how much of a risk you are willing to take.

We can add in that metering and thereby, you know, be able to sell the electricity at a retail rate, which would potentially put the revenues up in the 35, 36 cents per kilowatt range. You know, quite attractive. And so that's why these revenue assumptions are so important for the model because they represent -- they span such a wide range

just looking at a couple of the variables that go into it.

Okay. So we are using NREL's Crest model, Cost of Renewable Energy Spreadsheet Tool, that's our garbage grinder to bring all the assumptions together and spit out a livable cost of electricity.

This is a model that's been around for a while. It's been pretty well vetted, most of the bugs are out of it. Our main challenges, in fact, are scrubbing out some of the tax code assumptions that really represented what they were a year ago and don't represent what they are today.

There are other models available, and you know, developers are likely to use models that have much more engineering detail and detailed weather assumptions. We thought that level of detail was inappropriate for this policy analysis type of work because it's more important that we get the big picture right, and given the ranges of

uncertainties that we've already sort of laid out exist along many of the key variables.

Here are a bunch of the assumptions that we are planning to make unless you tell us that we're full of it and ought to make different assumptions. And I think the way this can work is after I finish speaking, which will be very soon, you might have a favorite number that you want to come up and comment on. And then in addition we have the written comment opportunity that would let you really hone in on particular assumptions and help us choose more wisely as we try to assemble a reasonable set of assumptions for policy analysis.

So just starting in the upper left what's subject to the investment tax credit and to accelerate depreciation. Is 94 percent of capital a reasonable amount or should it be more in the 70s? Are there opportunities to apply bonus depreciation? Is 60/40

approximately the right equity to debt split? Is 10 percent a reasonable internal rate of return for the equity part of the investment? Is 6-1/2 percent a reasonable rate of interest to assume for the debt portion? Is there a loan fee, should be it be 1 percent, should it be some other number? Capacity factor. Remember we're not doing detailed engineering calculations, we don't have a weather deck behind us. And so is a net capacity factor in the 14/15 percent range plausible, and do we have the right annual degradation rate assumed.

Ongoing costs for operation and maintenance is the $15.00 per kilowatt year reasonable. This comes from NREL. Or is it different in New Jersey. I know many other things are different in New Jersey, so that might be one of them.

Tax rates, state rate, federal rate, the blended rate is already suspect to me given the new tax law.

But insurance, capital costs. You know, we're seeing nice dramatic declines in how much it costs to buy solar panels over the last several years. Is that trend likely to continue.

Do you have to pay for land, either to lease it or to buy it. Customer acquisition, again we don't even dare put straw man numbers there, all we are willing to put is question marks. So clearly an area where we need lots of input. Should we be assuming property taxes or royalties in any of this. And, of course, the tariff discussions that we've already had.

Okay. So I'm closing with questions. And so here are a dozen questions that we would love you to answer, and if you don't answer it, we're going to make up answers as part of the policy analysis. And so we would like to do it in a way that's informed, and so just walking down it, per watt capital costs, what's eligible for investment tax credits and accelerated

depreciation, how much does it cost for customer acquisition, especially -- and let's separate that to the low- and moderate-income category here. Churn rates, different types of installations, rooftop, ground-mount, canopy, what are the right differentials to assume. Leasing or acquisition of the location where we're going to put the panels, property taxes, SRECs, cost of capital, replacement inverters. They don't necessarily have the same lifetime as the panels, so what's the right assumptions there, royalties, tariffs, and there may be other things that we haven't thought of.

Okay. So this is work that a group of us have done, Will Irving and Jaci Trzaska have carried a lot of the weight here, frank Felder has been super helpful in making sure that we look at the big picture, and Jennifer Sennick (ph), who is not listed here, has been playing a role in looking for good policy analogies from other states and

good organizational ways to organize it, institutional mechanisms and things like that.

So there is an e-mail address for sending your comments to, and that's Communitysolar@NJcleanenergy.com. So I think that's also in today's agenda, so be sure to send lots of comments. So I will stop there.

AUDIENCE MEMBER: Will the slides be available?

MR. ANDREWS: As far as I know.

AUDIENCE MEMBER: Will you put it on your site?

MS. BENREY: We'll send those slides on to our web server. That's the e-mail to ask.

MR. ANDREWS: Okay. I'm done. Thank you.

MR. SHEEHAN: Okay. We're going to move on with our other speakers at this point, CCSA.

MR. SMITHWOOD: Sorry to introduce myself briefly in the last session. Melissa gave a reference to

CCSA in her opening presentation. I guess I'll just briefly, before I get going, give you a better sense of who we are. So we are a national trade association. We have 50 members now, so we've nearly doubled in a short period of time. We have developers, owner-operators, pure-play Community Solar providers, developers that participate across market segments.

So to get into this discussion of the value of the bill credit, I want to start with some of the point that I think is pretty basic, but is important to remember as we get into some of the discussions of when the bill credit should be and what kind of projects that would enable.

The bill credit is really the means by which customers realize the economic value of their participation in the program. Just as much in the same way that customers receiving bill credits for exports onto the grid. So there are different models out there in

terms of subscriptions, but it's pretty similar to an arrangement where you are build after the credits minus the cost after the subscription, that's your net savings.

So the bill credit is really important to ensure the customers realize that, economic value proposition and it relates to project economics but it's not revenues that flow directly to the project. It's a bill credit showing up on the customer's bill. So a basic point but kind of something to anchor our conversation around.

So I enjoyed the professor's presentation. I think he raised -- you know, there are a lot of variables out there in the New Jersey market right now, and the BPU has a pretty Herculean task of trying to come up with these rules in a short period of time. So I think we've taken a slightly different tact, which is to kind of think about what is the current situation in the market and what is the context in which

the BPU is creating this pilot, and what's their kind of nexus in decision making.

And our view is when you look at the about half gigawatt of projects already in the pipeline and the about 600 megawatts of head room created by the current legislation that pulled forward the SREC cap, the 5.1 percent goal, we think that even with assuming the 20 percent attrition rate, by the time you get to the end of this year there's going to be enough applications out there that the program will be fully consumed.

So, you know, the BPU is still determining whether the program should be closed based on applications or closed based on when projects are energized, but from the perspective of a project developer you're going to be looking at that queue and saying, well, my project is energized so there will be SRECs left, and the likely answer is going to be no.

So we're coming from this very pragmatic standpoint of even though the statute, specifically in SRECs successor language says Community Solar should be explicitly included, we think it's a practical matter that this pilot program has to be developed with the presumption that SRECs are not going to be available.

So that really makes the bill credit program size citing flexibility and access to Class I RECs critical. And in this discussion I think there's been a lot of discussion about various program design objectives, various types of projects people would like to see. And maybe this isn't the best analogy but it's like a balloon, if you push in on one spot, it's going to push out on other another, and these things are all interrelated. Sites there are more difficult to develop because they're brown fields, they're roots where you have structural concerns, you know, it has to be counter-weighed by the fact

that the SREC market is likely to be full.

With that said, as this program moves forward, SRECs successor program is really an opportunity to create adders and other incentives to incentivize the type of projects that various stakeholders want to see on certain sites and potentially with certain subscribers.

This has been done in other markets, the smart program in Massachusetts, the Megawatt program in New York, they're differentiated adders for different types of projects. There was a reference to flowable takes (ph) this morning. Massachusetts even has a flowable take (ph) entered.

So getting kind of into the specifics of what the credits should be, we think the bill credit should be a full retail rate credit, and that's kind of based on three points: One is, and really starting from this bottom dash here, is pragmatism. The timeline

doesn't -- that we have to develop this program doesn't allow for a full value of solar development. States that are doing this in a robust manner, it's taking years.

But we do have, moving bottom to the top here on those dashes, we have a number of value solar studies. The last one done in New Jersey was about six years ago, but much more recent ones with similar markets and similar marginal costs, like Maryland, that justify our residential retail rate credit easily. So it's a fair proxy for value, but we don't have time to do a full value credit development. And to get to the top dash here it parallels that metering framework that we have in place, and the legislation effectively doubled the REMCAP (ph), so that's a framework that's working and that people want to continue with.

The bill credit should be maintained for 25 years. The point is not that future iterations of the

program -- so New Jersey said in three years we want to really do a robust value-based crediting scheme that all projects going forward have to have the same credit. It's that when a distinct project needs to know what that credit rate's going to be for customers, so that those can go in the financial models.

And then similar to the states that have modified their tariffs, you see these kinds of provisions to be sure that, you know, the project economics are stable. And then bill credit recovery, one part of if the state did want to move to a value-based crediting scheme, it really kind of requires a reinvention of distribution process, and that's happening in New York and California, are really kind of the leaders on that.

So ideally we're seeing a lot of evidence that in the real world now that distributed generations on a scale we're avoiding a lot of infrastructure costs

that would otherwise be born by ratepayers, and we need to go capturing those costs in a rate case. As a practical matter for this pilot, those bill credits, because that otherwise would be lost revenue to the distribution utilities, should be above related costs. Costs of those bill credits should just be recovered and not by a passable charge so we don't have a lost revenue concern from the utilities.

So that's under the value of the credit, and then something which is gonna seem kind of pedestrian, but I want to start off with a real live example here is the bill crediting process, how bill credits are allocated to customers on their bills and accounted for is critically important.

To their first slide the bill credit is how the customer receives the value of their Community Solar participation, their subscription. What we've seen in Massachusetts, which has a very successful program, it's a very

simple -- it's been built on a very simple tariff. Not to take this on a tangent, but in Massachusetts you get something called schedule Z when you're that metering customer, and you fill out the account you want credits to go to. So like I'm in the process of getting a rooftop system, but my sister is in the same utility service territory. I can put her -- I can give her credits from my system. So it's a flexible system.

The down side is the utility's billing processes is really not scaled to the success of the program, it's being done annually and without sufficient processes even to do it manually. And so what we've seen is customers receiving credits on their utility bills months later, and in some cases those credits have gone to the wrong customers. And so that creates a lot of frustration. The Community Solar is paying their subscription. In a lot of cases the solar companies have taken on them to say, well, forego a payment

while this gets corrected, but it really gets back to the utility's billing processes to really resolve that problem.

So I'm getting into specifics here, but I really want a level set on this is a problem that we want to make sure does not recur in other markets because it's really frustrating for customers.

So the process. Community Community Solar providers, or what we tend to call subscriber organizations, need to submit a report to the utilities, ideally electronically, again to try to prevent errors and making it a smooth process, on the subscribers to the project and how much of the project's generation is attributable to those customers.

So if it was a 100 kilowatt -- well, I'm not even going to bother doing math, but if they have a, you know, 10-kilowatt system and whatever proportion of that project is 10

kilowatts, you know, that generation needs to be credited to that specific customer.

So the EDCs, the utilities that apply that bill credit to the accounts of all those subscribers, based on the their proportion of the production, so whatever their subscription entitles them to in terms of a portion of the project's generation, and then metering that bill credit should roll over month to month.

So these projects are no different than any other solar project, the production varies seasonally, and you want customers to really capture the value of that additional generation in the summer by rolling those credits over.

So importantly is a feedback lobe, so the Community Solar providers, this subscriber organization, sends a report in, credits are allocated out, and then the utility should really send a report back for accounting purposes,

so you can see, okay, I see this report, and, yes, the math adds up to 200 percent and the credit's not what it's supposed to be and then there's kind of an accounting control there.

And then the last point, there was a question on how do we size these projects relative to customers. What we see work in other markets, because you're going to want to create flexibility to subscribers, you know, they may need to transfer their subscriptions, they may want to upsize their subscriptions, you know, you're inevitably going to have some churn, in kind of the most successful model is to allow that project to retain credits for a period of time, typically a year, and then they can allocate those credits out. So if they lose a customer and then another customer comes in a month later, those credits can be allocated over to that new customer.

And then barring that, you know, customers -- or the subscriber

organization or project owner should have the opportunity to sell the unsubscribed energy to the utility at avoided cost.

So that's what we've got on bill credit. I'm happy to answer any questions.

MR. SHEEHAN: Thank you very much.

MR. SMITHWOOD: Thanks.

MR. SHEEHAN: Our next speaker is Ondrea Kanwhen.

MS. KANWHEN: Hello. My name is Ondrea Kanwhen, that is K-A-N-W-H-E-N. I hope you guys are having a great afternoon. It's been wonderful to attend all these different sessions and analysis.

About myself, I'm the founder of Bona Global Energy and Solutions. We do -- we're focused on providing financial analysis, sales support, and project management services. So I'm going to actually keep a lot of what I'm going to say brief because throughout

today everybody's basically mentioned what I planned to talk about, especially the very last presentation, I have to say I concur, I agree, with all the points that are mentioned. But there are a few points that I would like to mention.

So I actually model the scenarios in question 14, and I'll provide them in detail in the written comments. One of the things I found -- or one of the few things that I found was that the cost of acquisition of subscribers actually created a huge impact on the IRR for the -- for example, the 5 Megawatt project. And that was the most economically attractive project, and I still saw IRR when I added in the customers acquisition costs.

And while in regular residential multi-family projects you will have that customer acquisition cost to take into consideration, with Community Solar it is a bit larger just due to the fact

that you're acquiring a lot more customers, and, of course, in turn, this is a cost that you're going to continually have year after year. So I did see that the IRR dropped 500 basis points just by adding in that.

And then the second drop that I saw was the -- in adding savings for subscribers, that especially with the market that we're targeting, when I added an additional 25 percent bill savings for subscribers, I noticed an additional 800 basis point drop in IRR.

And I guess it's up for debate whether or not we'd like to add such a high bill savings for the subscribers. However, just from my experience selling to LMI residents as well as multi-family housing, that's the first thing you have to propose when you walk in the door, is savings. They're interested in other things as well. However, if you don't have savings to show on the sheet when you walk through the door, then it sort of stops your conversation.

So then there seems to be two parts to that savings that we've seen, and one is the value of the credit, and I do agree with the previous presentation that the credit should equal the retail rate.

If there is a lot of fluctuation in the valuation of that bill credit, like we're seeing in New York, it causes quite a bit of difficulty doing a financial analysis and giving reliable numbers to a financial entity, that in 20 years this is what your project is going to return. And, of course, the subscriber also will run -- may run into even higher costs in the initial...

So the next thing that I saw were developer costs that -- and the main developer costs was the customer acquisition costs, which I had mentioned before. That cost I modeled out -- I can provide the numbers for that at another time as well. That's through research and only a very small sample size, so I'm sure a lot of other people

would be able to provide additional numbers for that. But those numbers are, of course, affected by the type of subscribers that you are getting. I don't know have numbers put out between LMI and non-LMI customers. But it's not just LMI, it's also the number of subscribers.

If you have a 5 Megawatt project and you have a huge project that's taking up 80 percent of the power that's generated, then, yes, your customer acquisition costs aren't going to be that high. If you can find subscribers that will sign up for a 20-year term, that would also change your yearly customer acquisition rates. However, I have not been able to, so -- in 20 years. So that's something I don't have experience with. I would see something more of a 12-month, 18-month of a subscription and then you, of course, would have to do a churn.

So those are the points that I'd like to bring up that needs to be taken

into consideration. I feel like there should be some sort of additional incentive to incentivize LMI subscription because of the additional costs that may be incurred. And I definitely believe that the SRECs, or at least some sort of REC should be available to developers to offset the cost of solar. Otherwise, it's going to be very tough to incentivize developers to take on these projects.

That's it. Any questions?

MS. BENREY: So thank you. So you provided additional detail, but just on the one number that I found interesting. You said you modeled a 25-percent bill savings. Is that, in your experience -- has that been a threshold to get people interested?

MS. KANWHEN: Most of my experience has been with LMI and doing floor sales to LMI and as well as Housing Authority for low-income individuals. So, yes, 20 to 25 percent was what we were targeting, and so that

was the goal. I can try to sell more, but that's how the model is, yeah. And in doing research for this I thought SEI quoted 30 percent, but I don't remember an initial number.

MR. SHEEHAN: Thank you very much.

Direct Energy Solar? Daniel Schneider. New Jersey Resources Act.

MR. SCHNEIDER: Okay. We had a slightly different perspective on this, but, you know, you guys paid good money to be here, so let's tee up some differences of opinion.

When we look at this model, we think it is most analogous, not quite to sort of a retail -- third-party retail supply model. So, you know, the idea is now that we have some power to sell, we have a retail customer that wants to buy that power, and we're going to kind of create a transaction to make that happen.

So the way a third-party retail supplier would work is they would charge

you an overall generation charge that, in most cases, particularly for residential customers, is going to be what you might hear, your basis generation service rate. And that right now, if you -- you know, it depends on the utility region that you're in, that right now can run from 8 to 9 to 10 cents a kilowatt hour.

So what we would be thinking of was, okay, now instead of paying for that, Mr. Customer, you will sign up for this solar power that we're going to provide to you from this solar facility located in your utility service territory. And then that BGS cost that you now incur on your bill, that bill credit is going to go away and will be replaced then by what we're going to be charging you.

Now, just as in the third-party supply model, we would say let's make this real easy. The utility already has an infrastructure set up, building infrastructure, to be able to account

for, you know, what power that retail supplier provided to you at what price, make sure that's reflected on your bill, collect the payment from the customer, revert the funds back to the supplier, and also provide the overall credit and collection service.

So we think about that model as something to really think about now as we're starting to see the cost of solar come down, see that it's generation that we can put in our own New Jersey world, and literally, you know, now serve the electric loads of customers, and that that can be a model that we apply here for Community Solar for virtual net metering for community choice, that that model is kind of scaled.

Also, as the cost of solar has come down pretty significantly, you start to look at if you can build a large scale project and get all the economies to scale, as folks have talked about. You're not too far from being able to deliver a price that's

attractive to that price to compare the BGS rate, and so it starts to come together.

So in the best-case scenario in the state if you can do this, for instance, in the PSE&G territory, which has the highest BGS rate, if you can build the largest system you could, five megawatts in this case, a ground-mounted system in, say, a landfill or brown field, you would not need much of an incentive at all to make that -- the economics of that work. The customer would get their bill credit, they'd get a little savings.

The utility, by the way, gets fully paid for transporting the power, which is how the deregulation market was originally set up, is they should be agnostic as to where the electron comes from. They should be paid, though, for the use of the poles and wires, and the state should be happy with that because you have less of a need of contribution from non-participants. So how do we do

more of those.

You know, the other piece of that would be, to make that model work, we do have to start to get more serious about this value of solar thing that people have been talking about. So if we're going -- whenever I get to the pulpit, I will say this, but we need a value of solar study here in this state, not a study done by this group or that group, but a study that kind of is where the state pulls together the expertise, goes through the process and says here's going to be our methodology for how we do this.

Because if we're going to be a clean energy state, we're going to need it in the bag and done so that we're not relitigating it every time we want to do something new. We need a number. If you look at Minnesota, their number is 13 cents. You can look at New York, their number is something else. There's no right number, but there is a number, and I think we need that.

Now, if I use Minnesota's number, which includes the peak value of the energy, it includes the avoided generation costs that that facility is contributing to, the avoided transmission costs, the avoided power plant O & M, the environmental benefits. All of those things start to add up to what a solar system from a relatively large facility here in New Jersey can deliver. So you start to have the economic justification behind that price.

Now, the problem is, as you start to move out of that idealized project and you go to a smaller project, you go to a rooftop project, you go to a project that has multiple customers, when you're talking about churn and things like that, then your costs go up.

You would need a premium, here's where you would need incentives, if you were doing that project with JCP&L or ACE territory, you would need a multiple of that if you were doing a rooftop

Community Solar project and a multiple on that if you were doing a canopy.

That all gets back to the earlier question I raised about, well, you know, so if we're going to be happy with a diverse set of projects here, we're going to need some source of funding to be able to support those incentives. I won't belabor the point about the options.

So that is -- you know, when we submitted our comments, we did some analysis on all the scenarios that you posed, and we can give you some specific numbers there that relate to, you know, what the incentives are under the different cases.

If you're going to have commercial customer in the mix, that adds another level of complexity because they're priced-to-compare rate is not -- is energy and it's also a per-kilowatt basis for capacity and other charges, so you need to figure out how to do that a little bit differently.

But that's kind of the -- that's our thought process on the theory then, but I also do recognize pragmatism, too, and if we're going to be stumbling around for a while figuring out what the right incentive structure is to get this pilot going, then, yeah, I mean, maybe full retail credit is the way to go just to expedite it. But I'd like us to be thinking how can we start to break through a new paradigm here.

MR. WINKA: So in the value of solar have you ever looked at the cost benefit analysis at Rutgers down to the clean energy program on an annual basis, so it has the avoided T & D cost, the avoided environmental costs. I don't think it has resiliency in that, but... so it has those stack values in there. Does that do a proxy for what you're talking about, or do you want to take a look at it and send us comments?

And I would suggest that folks do that. So we do that annualy, Scott Hunter's program, Sherry Jones effect.

MR. SCHNEIDER: Yeah, I wasn't aware it was -- is there a number we refer to? Any ranges you can share? I mean, what's the...

MR. FELDER: So why don't we distribute the latest one, and maybe you can take a look at the factors that -- we're asking every year for comments on avoided T & D costs and all of those things. So, you know, if we can do something that's a proxy that you think is something that's close enough, that's something we can do.

MR. SCHNEIDER: Yeah, and just to be clear I'm not saying that needs to be done for this pilot, I'm just saying that needs to be done at some point over, you know, a reasonable period of time in a rigorous, robust way.

What I see in other states is it does take some time to do this. It's a proceeding and you've invited one expert and he says it's worth 3 cents, and another expert and he says it's worth 30 cents and eventually you come to some

consensus on what makes sense. But it is a proceeding, and then there becomes an official methodology. But, again, I'm not suggesting that has to be done before the pilot but it could be a reference point for us.

MR. SHEEHAN: Jonathan Ratner.

MR. RATNER: Yeah, just some very briefly. This is obviously a real trick shot particularly because of the fact that the elimination of the SREC program is overhanging this pilot period and we don't know exactly what we're transitioning to.

So I think there's certainly the challenge of making sure that the incentives and the credit is established in such a way that there's sufficient uptake for the pilot. There are certainly examples of other states' pilot programs that have not really garnered very much enthusiasm and many takers for doing projects.

I think it's also critical to ensure that the BPU has thought in

advance about methodologies they might be able to use to translate the results of the pilot and make use of those results given that no doubt the crediting environment will be different three years from now.

The only other comment that I wanted to make was just that it seems like net metering will likely be a piece part of the equation, and the model that's been used for net metering for traditional rooftop solar has always basically used prior historical customer usage to establish the maximum size of the installation, but the retail rate has been always capped at basically zeroing out your bill at the level that -- of electricity that's overall been used or supplied.

And then immediately you go to avoided costs, and it just seems to me that there is an argument to have the retail rate applied up until such a point as not simply you zeroed out your bill, but you have surpassed your

baseline historical usage because I think that is a better approach in order to incentivize energy efficiency, you know, it kind of measures by the customer. If they know that once they get to net zero through the net metering that they're just going to be compensated and avoid costs, that does significantly lessen the incentive for energy efficiency measures. That's it.

MR. SHEEHAN: Thank you very much.

Vote Solar.

MS. KASOTIA: Hi again. We don't really have any new comments than what's already been offered. I think someone had touched on earlier, that to get customers interested in Community Solar program, you want to make the value of credit meaningful. So we are recommending that we start with the retail rate for the value of credit and, as others have talked about, if we do move to on the value of credit study, Minnesota is a good example, so we would

recommend that how Minnesota did its study and the different aspects that were utilized. So that's it. Thank you.

MR. SHEEHAN: Pine Gate Renewables.

MR. BIXBY: My name is Evan Bixby with Pine Gate renewables. I apologize, I was not able to attend the morning session, but I'm glad to be here now.

So for the value of credit there are a few things that we would like to sort of harp on to make sure they get implemented into the program.

The first thing is the value of credit, whatever it turns out to be, needs to be transparent and calculable by developers. In other programs that we've seen, such as in New York, there is an information asymmetry that is developed between the developers and the utilities where developers can't go in and be able to calculate what these rates are because some of the parts of

the value stack are hidden behind so-called proprietary utility information and knowledge. That makes it very difficult to develop and finance projects, as well as it makes it very difficult for the actual subscribers to be able to understand how their credits are being valued.

To go into a community and tell someone, yeah, we have this great Community Solar program you can sign up for and get a discount, and someone asks, well, okay, how does that actually work. Net metering make a lot of intuitive sense to a subscriber. Something like a value stack, where it's hidden behind all of these obscure values, makes that very difficult to explain to a subscriber, for them to understand what that real value proposition is there.

And so at the very least we advocate for net metering, but I believe that there should be an added benefit on top of net metering. There are

ancillary benefits, such as environmental actions, such as a legacy (ph). And as long as those components of a value stack are transparent and understandable and easily explained, not only from a development side, but as well as to a potential subscriber, that will make this program all the more of a success.

A few other things that I think should be addressed in the crediting system is that these credits need to be administered in such a way that they remain compatible with budget billing. This was an issue that arose in New York State. They had a two-bill system where if a subscriber became a member of a Community Solar environment and they were on budget billing, they lost their budget billing. For a lot of people that's something that they rely on to to be able to make their monthly finances work.

And we also think that SREC should be a part of this program. We

understand the challenges around the closure of the SREC program, but there needs to be adequate dovetailing communication between this working group and the new SREC replacement program to ensure that that is as successful as possible. Thank you.

MR. SHEEHAN: Thank you very much.

That concludes the pre-registered individuals. Now we're moving on to Mr. Long.

(No response.)

ACE?

MR. SUNDERHAUF: Hello again. A few comments from the Atlantic City perspective. One of the cost items I noticed on the original chart were distribution costs and interconnection costs, the distribution system upgrade costs listed. It's certainly one thing that we want everyone to be aware of when thinking about the system cost of the Community Solar facility.

From the billing standpoint we

too agree that bill credits should be simple to understand and calculate, or remember the utilities are going to calculate them. They have a liability process, we want to reduce billing errors, we want to produce billing errors for our staff to review, and we want to make them fairly simple and transparent.

It's likewise applicable to both the host facilities and to customers that are being recruited to these Community Solar facilities. So, again, very clear values and very clearly transparent is an important part.

And one of the things that we've always heard is credits could be based on third-party supplier prices. Very hard for us to administer and we would not recommend any use of a third-party supplier pricing in that calculation.

Monthly credits should be minimized. The variations should be minimized month over month. It really complicates the billing process and

creates additional potential for errors, as we bill and pay all those various subscribers and also hard to communicate to people who subscribe to Community Solar facility. We don't want to engender a lot of traditional billing questions or complaints related to that as well.

The one thing that we're very cognizant is if we pay costs above market value, there will be some subsidization to other non-participants. We need to recognize that and be aware of what that does to other participants. That does affect all income groups, we just need all to be cognizant of that.

And one of the other questions that came up earlier is how close a Community Solar facility needs to be to the community that it serves. And our view is that these Community Solar facilities should be cited anywhere within the utility footprint of each utility and they can get subscribers from across that utility footprint, and

that way there will be more locations that these Community Solar facilities could connect at a lower distribution cost impact and also an interconnection impact and also land use considerations become a less of a potential issue. It's going to greatly -- make it much more complex to cite these and interconnect these at a relatively low cost so we have some level of flexibility. The community is much broader than some streets that are close to one another.

One of the things that we also will note is if some form of advanced metering were available, it would allow these facilities, the Community Solar facility and the subscribers, to be billed in the same potential billing cycle. And right now there are Community Solar facility and the other people are on different monthly cycles, greatly complicates the billing, greatly complicates any understanding of exactly how the production is translating into a

credit back to the customer. So there are significant advantages if we can basically do it all at the same time.

And so we have AMI in other jurisdictions, but that would allow some greater flexibilities in terms of information by the consumers. So those are the added remarks that I had.

MR. WINKA: That last point, would you see that as -- so each subscriber would then be upgraded with an advanced meter, or is that a wholesale utility upgrade of the advanced meter system?

MR. SUNDERHAUF: Right. It's obviously a policy issue in New Jersey. At the point where AMI is universal, that would be ideal, right, because then you'd have the ability to move things around as you needed to. Until that time you'd have to consider what the net metering characteristics would be.

So ideally we would want to meter the participants in some type of remote metering capability. But then

given the complexity of that, then metering may not be realistic. So it's kind of a timing issue related to AMI. We would point out that with that remote metering flexibility you do have actually have a lot more flexibility of how you bill these accounts and how you group communities together in terms of that billing, unfortunately. Thank you.

MR. SHEEHAN: Lina Smith from Food & Water Watch.

MS. SMITH: Hello again. To the question of the value of solar, we would encourage the BPU not to implement a value of solar program.

When this type of valuation was implemented in New York to replace the metering, renewable development came to a screeching halt. The policy created uncertainty and confusion in the solar industry and amongst its customers, resulting in project in over 100 communities being cancelled, which represented over 600 megawatts.

Implementing such a policy in

New Jersey would likely be just as disastrous for solar developments. And a more effective and preferable policy would be to extend metering benefits to Community Solar projects like has been mentioned before.

New Jersey could consider equitable net metering non-community solar where ratepayers are credited at a retail rate for up to 120 percent of their annual electricity generation, receiving bill credits with the option for annual payments for excess generation up to the 120 percent cap.

If solar owners' generation exceeds 120 percent of their generation, the utility that serves them should be required to credit a BPU-administered fund to support the development of LMI community solar project at their retail rate for their excess electricity put into their grid.

Regarding excess credits on subscriber bills, we recommend that subscribers should have the options of

rolling over their credits at the end of the year or receiving a check from the utility.

Until the question of renewable energy credits unbundled as RECs should not be allowed to be sold to utilities to meet renewable electricity standards or sold to electricity customers as a way to offset their fossil fuel usage and claim renewable energy benefits while actually utilizing fossil fuels or other sources of electricity. These credits are used to offset fossil fuel burning elsewhere, and there is no guarantee that SRECs will result in more solar energy being built.

But bundled RECs should be regenerated and sold with electricity to electric utilities if a Community Solar project generates excess electricity. The proceeds from the excess generation should be credited to subscribers billed and on an annual basis. Compensation for excess generation from a Community Solar project should be credited to a

BPU fund that will support the development of low-income solar projects including reducing subscription costs for LMI subscribers who join the project or current members of Community Solar project.

However, if unbundled SRECs are used in the state, they should be available to Community Solar projects and credited to subscribers for the portion of energy available in their subscription up to 120 percent of their electricity usage.

Revenue generated from unbundled RECs beyond 120 percent of their electricity usage should be credited to a BPU administered fund to support the development of low-income solar. Thank you.

MR. SHEEHAN: So are you advocating for -- are you advocating for scaling the facilities based upon the load or scaling as large as you can and using this credit system?

MS. SMITH: Based upon the load.

MR. SHEEHAN: Okay. So you're not expecting a lot of this credit system, it's just in the event?

MS. SMITH: In the event.

MR. SHEEHAN: Okay. Thank you.

Next up is Lyle Rawlings.

MR. RAWLINGS: Thank you, Ken and Mike, and the other staff. I'm Lyle Rawlings. I'm the president and co-founder of the Mid-Atlantic Solar Energy Industries Association, or MSEIA. MSEIA, going on 21 years now, has been advocating for solar energy in New Jersey.

And for all of that time we've done so under three basic principles they're very easy to say, you can see them on our website. Those three principles are grow solar as much as possible, obviously; do so at the least possible cost to ratepayers and deliver the greatest possible values of public good; and, third, maintain a diverse market that providers incentives for local businesses to grow and create

jobs.

MSEIA has a wide variety of different members and we haven't come to a consensus on what they're recommending for net metering yet. It's a very complicated topic, and a variety of our members with a lot of different views on Community Solar need to come together. We have a policy committee meeting tomorrow and we hope to get there in time to submit comments.

But if we apply those basic fundamental policy principles that we have, I think we would have to say that Community Solar projects should not place a greater burden on ratepayers than the default way of doing the same thing.

For instance, if you have a 5 Megawatt Community Solar project, that should not have a greater total ratepayer burden than a 5 Megawatt project in that same location if it were just to sell power to the grid. So what is that total rate impact?

First of all, let's look at what is the total rate impact if we do a real true net metered project on somebody's roof. Now, that's -- it's murky, it's hard to understand this concept of bill credits, and I don't think I've got a real handle on it yet.

The two pathways that cost of solar gets to ratepayers, the way it's laid on ratepayers, are first through an attribute payment that stands for the qualities, those environmental qualities, that we've heard about from others, and we do that through an SREC. So the SREC is the attribute payment.

The other part comes in a net metered project when the utility company goes for a rate recovery proceeding or a rate recovery mechanism or a periodic rate case. So how much is that? This is so murky that when I talk to utility people I say, please, explain this to me like I'm eight years old.

So if you really get down to the basics and look at the numbers, if you

take the residential net metered customer and he puts solar on his roof, the utility takes their total lost revenue, that credit on the bill, and they subtract their avoided costs, costs that they didn't have to pay because of that solar generation.

And that part of it is pretty murky, but basically for a residential customer their credit is the same as the retail rate, unlike in commercial where it's complicated by the demand costs.

So if the customer is paying 17 cents per kilowatt hour, their bill credit is 17 cents per kilowatt hour. The utility roughly is going to calculate an avoided cost that's about 13-and-a-half cents a kilowatt hour. There's many components to go into that, some of which is a little bit questionable.

But that means they go for a rate recovery of about 3-and-a-half cents a kilowatt hour. That becomes part of the ratepayer impact. Now it's

the SREC plus that 3-and-a-half cents of kilowatt hour.

Now, when I ask them, okay, so what is the avoided cost if it's a virtual net meter. If we have this five Megawatt out in the field somewhere pumping power into the grid, then what is that avoided cost? And I can't get any answer. I think everybody's still trying to figure that out, what is the real physical credit to ratepayers, the real market value that they're getting for the solar in that case.

On the low end you could say it's just L & P plus capacity, which is the same thing you get paid if you develop that project and just sold power to the grid. That's on the low end. On the high end you might say it's the same as it would be if it were net metered, it's that same 13-and-a-half cents. So somewhere in between there or on one end or another is the actual avoided cost.

Whatever that number is, whatever the real number is, the delta

between that and the bill credit that the BPU defines for a Community Solar project becomes part of the rate impact. So presumably that avoided cost is going to be lower than the bill credit that you guys defined for Community Solar. That difference is part of the rate impact for that project, and then there's whatever else it gets as an attribute payments, like SRECs, if the Community Solar project gets SRECs.

So we would say if we're staying true to our principles, that you've got to deliver solar at the lowest cost to ratepayers. That total of the recovery the utilities are going to get for the Community Solar project plus the SREC or other attribute payment, that total should not be more than the default case for building that same megawatts.

What is the default case? Well, the default case is a grid supply developer develops that 5 Killowatt project, just cells the power to the grid, and you pay him an attribute

payment and that's it. So I think if we stay true to our principle, we would say the Community Solar total rate impact should not be more than that default base case. And I believe that perhaps is the way the BPU should look at it.

Now, I'm a Community Solar developer in Massachusetts and in New York, and one of the aspects of Community Solar that's been mentioned here a lot is that there are costs that occur, the customer acquisition cost, the customer maintenance cost, service costs, there's the subscriber discount that's a cost, and then there is the additional risk and higher cost of capital for the developer.

Those aren't ratepayer costs; those are costs on the developer, but that can result in the need for a higher incentive payment. So that's something we have to be aware of and guard against.

There was one other thing I said in terms of our principles when I said

lowest possible ratepayer cost, I also said deliver the greatest value of public good. So the one case in which we can say a higher rate impact for a community solar project would be okay is if it's serving a public policy goal such as helping low-income ratepayers. In that case a discount for low-income ratepayers is a public good and could justify a little bit higher compensation in terms of the rate.

That is all my remarks for now. Thank you.

MR. SHEEHAN: Thank you very much.

That concludes the individuals who signed up. Was there anybody else who would like to come up and speak on this topic?

MS. KEMP: Hey everyone. Good afternoon. Melissa Kemp. I was up here this morning on behalf of CCSA, and this afternoon I'm just going to comment on behalf of the Cypress Creek Renewables.

As I mentioned, we're a large

solar storage company across the country with a big investment in the northeast.

I just wanted to comment on a couple of quick things. One was the framing of the potential, you know, bill credit as making sense as a third-party supplied credit. And, you know, just thinking through that logically here's what our reaction was:

One, it just fundamentally under values their resources in an apples to oranges comparison. When I get a third-party credit on my bill or have an escrow partner as a homeowner and business owner, that is for energy supply, commodity in the market, and capacity.

And we're supplying a lot of these Community Solar projects, we're supplying more value than that. New Jersey has not gone down the path of trying to value that yet, but the decision -- you know, there definitely are attribution and transitions as to the values, it's a recognized category

of value that hasn't been touched here.

Number two, there's a huge environmental value and the SREC program are placeholders for that. As we've already talked about, I know Brandon mentioned up here earlier there are not going to be SRECs in any available for Community Solar. Like we'll submit the modeling in our filed comments, you know, the capacity is very much on its way to being used up by early Q1 of next year. So I would say, you know, looking at the D&T value and the full E value are things that Community Solar is providing different than just a normal, conventional generation, third-party supply method. I just wanted to make that point.

You know, I would say I know there's some difference of opinion here, but we welcome the value of this approach to solar if that's what you guys decide you want to do. You know, we don't have time for that now. And so what we recommend strongly is not to try

to rush, no shortcuts to get to some kind of number there. It has never resulted in good or appropriate outcome for lots of stakeholders.

And instead make that a project and New Jersey can consider whether it wants to do it and do that in the future going forward and recognize how much work it actually is to do that.

And I guess I would just repeat the last thing from earlier, which is, you know, retail rate is not a big deal. You have a precedent here in New Jersey for using that. There is a ton of data out there as it being not an unreasonable proxy for value, which we have an impact here and we acknowledge that. But it's not actual reality now, we're not paying retail right like Hawaii where it's 30 cents, and maybe that's a real controversial number for value. This isn't a range of values that come in across the country, but clearly to the point taken, New Jersey wants to go down that path, we should do

the work. But there's not time to do that work properly for this Community Solar pilot program.

I think that wraps up the comments that I wanted to add. I appreciate everyone's time.

MR. SHEEHAN: Thank you very much. Anyone else who would like to step up?

MR. McDONALD: Good afternoon. I'm Cameron McDonald with Oster Energy (ph). I'm actually a developer of Community Solar in other states as well. I just look to the BPU to say I know you guys are on a limited time table to accomplish your goals here, but you have a lot of good things that other states that have put in place that you have access to review and look at, which cuts your need for time down quite a bit. But you also have the luxury of seeing what didn't work.

And being a Community Solar solar developer in New York State and a solar developer in New York State over

the past two years I would say don't stifle the developer by getting ahead of yourself. And some of the things they did were great, and I want to go back to where we were before, but definitely take a look and see what's worked in states like California, New York, and Massachusetts and look at what didn't work so you can avoid those.

Another point I wanted to make is people brought up escrows. I don't agree with using the escrow value, but what I would agree with is on the recovery and possibly taking it a step further where escrows have, in certain utility territories, and I think some in New Jersey offered, was POR, or purchase of receivables. This would give financiers even more risk mitigation working on projects if the utility was to just offer recovery, time of purchase of receivable or even pay a point or two, I think it was 2 percent for the escrows.

That gives the financiers even

more structure to lean on and, you know, safety to lean on, and really that's what it comes down to is if you can get the capital markets and the financiers behind these projects, the private sector will get the projects built. That benefits the LMI projects, but as most solar developers are out there, a lot of us don't have the balance sheets to do the projects on our own, so we need the certainty, and that comes from the BPU. So those are just my comments there, if you have any questions.

MR. SHEEHAN: Thank you very much. Okay. That was Session III. We are running about 15 to 20 minutes behind schedule.

So we will go right into Session IV. This is Applications and Interconnection. With that I think we'll start with our first speaker, which is Atlantic City Electric.

(No response.)

MR. SHEEHAN: Okay. Then we'll move on to our second speaker, CCSA,

Justin Wilson.

MR. WILSON: Good afternoon. I'm Justin Wilson speaking for CCSA here today. My company is reflected for a Community Solar developer with projects in 16 states, and so I wanted to talk a little bit about some of the best practices we see in the application and interconnection process for Community Solar.

So I think our principle here is that we want the Community Solar project to be -- the program to be designed and administered to run transparently and efficiently. We've heard transparent mentioned a couple of times, in particular around the bill credit. That transfers over into many of the different components of developing a program.

As we proposed earlier, with regard to dividing up that capacity in the program, we believe that each EDC should administer a BPU-approved pilot program based on those categories to

earlier questions. And so the way we kind of see this working is each EDC would have its own interconnection queue. It would really be the place where applications go, that's how you apply to the program. They would be managed on a first come, first serve basis with high project maturity requirements and have those project maturity requirements be ongoing throughout the interconnection process.

And so that makes sure that as projects are entered into the queue, that they over time are being developed and being accepted into the program and begin serving customers as quickly as possible.

And then we believe that existing projects should not be aloud to reclassify as Community Solar projects. Really the purpose of this program is to add new, clean generation that customers are wanting to place onto the grid.

A little bit on EDC reporting requirements, and this is separate than

the issues that Brandon talked about earlier with bill credits. And it really has to do with the interconnection queue and giving the development community the information it needs to make good decisions on where to site projects and what available capacity is still up there.

So each EDC should post weekly updates to an interconnect queue report as long as the path remains pilot program capacity in each year. We've got a set of information that needs to be included, the date that the program queue is updated, overall program size and capacity remaining, what capacity is in service, and the total capacity allocated as well.

Then on a slightly longer-term basis monthly would be preferred, quarterly can also work. It's just a little bit more overall information, a little bit more granular in detail. So the status of the application, including those that are active or in commercial

operation, and in particular the withdrawn. It's very good practice to have an insight into what projects may have been in the queue at one point, but have dropped out of the queue for another reason that can allow us to understand perhaps where projects are placed on the grid.

So, again, and then the -- some information on the activity of the applications and kind of what different phases that they are in, if it's study or design or construction. Yeah, and then the overall numbers, again very similar to what we'd want on a weekly basis or just updated in the same quarterly report.

And I think that's it. I would say the overall, again going back to the principle, is transparently and efficiency. We think that electric distribution companies, they know theirs systems, they know where projects are going to be in the queue, and they can very efficiently manage the programs

themselves. I'm happy to take any questions.

MR. WINKA: So just in the statute it says the BPU shall make available on its Internet site information on solar projects. So you don't see a conflict with what you're saying to what the statute requires?

MR. WILSON: I don't see a conflict necessarily. I think you can certainly delegate it to the utilities. I think you can certainly make a favorable on the NJ Clean Energy page, a site that, if developers would like to advertise, available capacity for them to do so.

You know, one of the things we have in Colorado is in Colorado, where my company is based, their original legislation had something similar in it. And the reality is that you have sometimes development cycles, and so sometimes there's a lot of project capacity available, sometimes there's not, and the websites just were not

being updated accurately. And so the companies were getting calls about interest in Community Solar but they didn't have available capacity. So I think from my perspective it's nice to have, but not necessarily something that every single project needs to be listed in a contact form.

MS. BENREY: You mentioned that projects should have a high maturity requirement in order to be accepted onto the queue. Can you elaborate a little more on what those requirements should be?

And specifically you can touch upon -- either here or later upon what requirements should exist or should not exist with regards to customer subscriptions that say should there be a threshold percentage of customers who have already signed up, at which point the project is considered able to move forward.

MR. WILSON: Sure. So on the first question, the project maturity

requirements, I think there's a couple of things to look for. To be placed in the queue I think you want to have site control, so that's ownership of land or an option to lease or purchase that land that's contingent on the project being continued to approve.

You want perhaps some sort of interconnection study or agreement signed, and so different states have different levels of interconnection study, and you want that to be something pretty substantial so that we know pretty -- with pretty clear eyes what the cost of interconnection would be.

And then there's a set of permits that could be somewhat of a checked box to make sure that local jurisdictions have signed off in some cases that this is a place that they're planning to approve the development.

And then the second was around -- sorry, your second question?

MS. BENREY: A threshold for subscribers.

MR. WILSON: So I think with -- so in short, no, I don't think there necessarily needs to be a threshold for subscriptions. What I would say is getting the subscribed and the unsubscribed energy figured out is going to -- and making sure that there is an incentive for developers to have subscribed energy is going to make sure they have that capacity locked down before they go and develop a speculative project.

Thank you.

MR. SHEEHAN: Okay. It's Direct Energy, Dan Schneider.

(No response.)

Pine Gate Renewables?

(No response.)

MR. McDONALD: So there have been, and I'm sure a lot of the local developers here are aware of this, quite a lot of distribution hosting capacity restraints on the distribution grid. Developers should have access to distribute grid line information in the

substation hosting capacities. Increase the transparency there, it will decrease costs for developers to actually get these projects through, and you will have a lot less failed applications at the end of the day.

Utilities should also be required to identify lines which in their belief will receive the greatest grid benefit from the addition of renewable energy resources. Whether that's load centric or however they deem that to be of benefit is fine as long as, as I said before, it's a transparent process that we can look at and understand what their methodology is.

That methodology should also be standardized across all of the utilities. It can be problematic if ACE has been provided methodology from JCP&L who been provided methodology from has Orange Rock.

And utilities should also be required to provide specific timelines, costs, and deadlines for these

interconnection studies. We don't want a repeat of what has happened in -- especially PJM right now where I think the interconnection timeline is supposed to be a year and a half, and now it's up to almost three years now for their interconnection queue.

When upgrade costs are required by a utility, developers should have a fair and efficient appeals process. There should be transparency into why they think the upgrades cost the way that they do. And, again, these pricing methodologies should be standardized across all the EDCs. And the program should have a separate interconnection queue for Community Solar projects.

And that's everything that seemed important to talk about in this point.

MR. SHEEHAN: Thank you very much.

MR. WINKA: Sorry. So you mentioned hosting capacities and they should be similar, so there's a number

of hosting capacities across the country. Do you have one -- is California's methodology better than New York, better than Massachusetts, better than Maryland?

MR. McDONALD: So the only methodology that I personally have experience with is New York's. All of their utilities have released these hosting capacity maps, and it's been very helpful.

AUDIENCE MEMBER: Was that required?

MR. McDONALD: Yes, it was required by their public service. Any other questions?

MR. WINKA: Thank you.

MR. SHEEHAN: Thank you. We're going to go next with New Jersey Resources.

(No response.)

Vote Solar?

MS. KASOTIA: So quick comments on this section as well. We do think it's important to create the application

and interconnection that's transparent and streamlined, and the BPU should direct each utility to administer a program with a certain annual capacity allocation in each service territory during the pilot program.

We also recommend that BPU explore ways to support projects that will low-income customers and customers in underserved communities. One of the ideas we have is if BPU can provide us assistance with the application process through waivers or support for interconnection fees, so that will help those projects to move forward. That's all that we have on this one.

MR. SHEEHAN: Thank you. That concludes the individuals who have signed up ahead of time.

We have Justin Wilson from the Clean Energy.

MR. WILSON: That was me.

MR. SHEEHAN: Perfect. Thank you.

ACE? Of course, we already had

you talk, so you don't have to come up again if you don't want to.

MR. SUNDERHAUF: Sorry I wasn't here for the beginning of the discussion, but very quickly a couple of items for your consideration.

Since we don't know the number of Community Solar potential projects it would be helpful, if there is a risk that it might be oversubscribing a particular service territory, that there be some type of screening effort by the BPU to determine which projects in which order would actually be the ones that would be selected for any period of time.

We can do some preliminary interconnection screening but in-depth interconnection screening does require some substantial time on our part be. Could be far better than some screening criteria that were applied by the BPU in terms of determining which ones actually should go through that process.

Beyond that we think the

existing interconnection process that we use and the application process is the appropriate one. But the one thing that we would note is that because of the size and scale of these projects and they may all come in at the same time, that that additional processing time may be required on the part of utilities.

Those are my remarks. Thank you.

AUDIENCE MEMBER: Can we ask for a clarification?

MR. SHEEHAN: You can ask him.

AUDIENCE MEMBER: You said the current interconnection process for net metering?

MR. SUNDERHAUF: For net metering, yes. It's the interconnection process that I'm referring to. And, again, it depends on the size of these facilities, if they go up to the PJM in size, but most of these will probably be in a size they would just come through the normal utility processes. But, again, I think it's unclear and the

volume could come at the same time if everybody's queued up. That's the one thing we are particularly sensitive to. Thank you.

MR. SHEEHAN: Lina Smith?

(No response.)

Okay. That appears to be everyone who signed up for this session. Is there anyone who would like to speak?

MR. ABBEY: Ross Abbey with US Solar. Just a few quick remarks. I'm going to overlap a little bit. Two key questions, I think, that we have.

First question is, at what point in the development cycle does the developer who's going to bring the project forward get a capacity against the annual program limit and also get a rate? Because until you have those two pieces it's hard to pivot to subscribers and contracting with subscribers. It's hard to make a commercial offer to subscribers until you've got that rate assigned to a project and also to financiers, unless you've got the

project rates.

So once you've -- once those things invest in the project you might also want to think about how long they invest for, how long does the project have to get done to actually bill the solar facility before they lose that vesting or is it forever -- I'm not sure of a program that lets a developer take forever. There has to be some type of term limits. Thirty months might be something to look at for that.

And then the other key question is what does a project developer have to demonstrate to give that reservation, that limited reservation. And so that's what you would require as project requirements, project maturity requirements.

So this is kind of a balancing act. You know, on the one hand if you allow projects to invest too early, then maybe get higher dropout rates versus making it up as you go before you get that allocation. But I would I say the

two things we need to look at are, one, the developer should have a site address, and ideally site control to make it demonstrate through legal documents; a land use permit, at least if it's a ground-mount kind of primary use because that shows the developer has gone to the city or to the county, he has permission to use that. And then the third piece would be apply for interconnection study, and ideally in my mind has a paper backing from the utilities saying, yes, there is the capacity on the substation on this wire.

Some states go further and require the developer to incur any interconnection costs and maybe even have paid that interconnection cost. In my mind that's a little bit -- you know, interconnection for these sets of facilities can be between $100,000 to $1 million. But I would keep those in mind.

MR. SHEEHAN: Would you have any squatting concerns for a process like

this, or is there a concern about people grabbing hold early?

MR. ABBEY: Yes. Exactly. I think that's going to be a concern. If there was an unlimited market, then maybe that's not a big concern. You can give out of a thousand, you know, capacity allocations, and if only a third get built, it is what it is. But certainly for the pilot program there's a limit; you want to avoid that.

MR. WINKA: And so this may not be a fair question because I'm going to ask a question about ACE and they can come up and comment on the comment, but so they have a screening process, so the interconnection process has some kind of screening process. What do you think about their comment on the screening process? It would go to the BPU, the BPU would say X, these are okay, these are not okay, go ahead and file for the interconnection.

MR. ABBEY: Would this be screening based on kind of on the parcel

or...?

MR. WINKA: I'll leave that up to ACE.

(Laughter.)

MR. WINKA: So you would have a parcel, you would have the zoning, you would have the planning.

MR. ABBEY: Yeah, at least the market I've been involved in typically a utility will do a capacity study, and then there's a more in-depth facility study where they say granted there's transformer capacity, here's all the upgrades you would have to do. And I think that facility study, it could go under different names, would probably be more involved. And so you want to second study to be in place as a proper requirement, I think is a good question.

MR. WINKA: It's that you presented us with a chicken-and-the-egg situation, so we're not sure which goes first.

MR. ABBEY: Well, it does put more work on the utility. They study

all these things before they even get a capacity, so you can go either way.

MR. WINKA: Okay. Thanks.

MR. SHEEHAN: Thank you.

MS. KEMP: Hey, everybody. Melissa Kemp for Cypress Creek again. I just wanted to build up on related topics that CCSA and others have covered.

The program administration application requirements and then reservation length, right. It's kind of the administrative side of this Community Solar program and what its rules are its compensation approach.

As this is a transition for New Jersey in terms of actually having offsite facilities that can serve customers, the one flag like separating recommending -- a strong recommendation to clearly separate distributed generation interconnection from program administration. And there's a couple of things. Like one is a technical, right, so interconnection processes and

Technical review screening study. That's kind of -- what's the word I'm... doesn't have a preference on what program you're in, what you might qualify for on the compensation side. It's, you know, what's technically viable on the grid and what are their reasonable rules to manage that and make sure it's done properly and that things move along.

So there's a couple of key things that we've learned in this region, New York, Massachusetts, on like things were missing at some point and then more development opportunities in Community Solar were open, and then all of a sudden the interconnection technical process, it was kept separate from the program, and that's great. And I highly recommend to keep that separate, but, two, it just didn't have an update, hadn't been reflected to really take into account the amount of interest or just the difference in being offsite and not always having a customer

building that you already agree, that you're working with the customer on.

So some of the things have been kind of essential components in other successful states, you know, interconnection, technical process, it's a separate program, it's first come, first serve, it's sequential study so you come in first, you get served first, meaning that you're studying first in the queue and other applications that come in behind you on a feeder substation are studying with you in mind. Up to a point of timelines, right, so making sure that we have really good timelines on developers. That's what we worked hard for in New York, as well as other utilities, and making sure that they're reasonable and that they're strongly enforced.

The other piece was getting information ahead of time. So you guys are talking about hosting capacity, and that's great, and California's the best one out there, but it takes a lot of

work and time. And pre-application reports are an easier starting way to get -- but the point really is is that if I'm a developer, I don't need to get into your queue. I just want this information about this feeder and this substation, let's provide that without clogging up what appears to us to be projects actually in development, right. I might just be looking at these parcels or land with buildings, or these landfills, or whatever it is.

So other states are really helpful in making sure that we have a good information ahead of time system in place. Pre-application reports are one easy way to do it, where you don't have to have an old capacity map. It's simply a you put in a form, you pay $100 or whatever, and the utility sends you back these 13 key pieces of data, and your engineering team can process that and then make a reasonable decision on what you pursue -- a possible project further.

And that fits in really well with maturity requirements for queue entry. Until you can ensure for people in New Jersey what rules we have in the book and making sure that there are maturity requirements. Like we don't want people getting in the region by joining the interconnection application. We want to make sure they do have some land owner consent use in New York or site control or something.

If you want to get in there and look like your serious project is queued and make people wait behind you, let's make sure you have some actual, you know, skin in the game, or whatever that silly metaphor is.

So those are the bill things. I know that's not your job at this table, but I would just recommend maybe we could initiate a process simultaneous to this to make sure we keep up with standards and make sure they're going to fit and not have some weird effect when this program does get up and running.

There are other pieces like making sure the technical, if there is technical streaming, as well as updated standards for study. Someone just mentioned payments. You know, like in New York we're allowed to have a 25 percent payment and kind of break up the money so if folks do want to have a requirement for putting some money on the table, I think that's a very reasonable concern. And so I just wanted to mention all those things. We'll follow up our comments with more detail, but something that may be very helpful.

MR. WINKA: You're follow up on skin in the game would be helpful.

MS. KEMP: On the payment segment?

MR. WINKA: Yes.

MS. KEMP: Absolutely.

MR. WINKA: Thanks.

MR. SHEEHAN: (Indicating).

MR. RAWLINGS: So a couple things. On interconnection, if you go

to interconnect a grid supply project now, and RVP for New Jersey is actually also the president and founder of the New Jersey Solar Grid Supply Association, you've got a hard road ahead of you to interconnect a grid supply project, and presumably that's going to be true for a 5 Megawatt Community Solar project as well.

On the other hand, if you develop a net metering project of the same size, it's quick, easy, and cheap. Now, if we want to do solar at the least possible cost we want to interconnect it in a way that's quick, easy, and cheap and facilitates development, and we also want to encourage the most low cost, most efficient project.

Now, by a great margin the most low cost, efficient project you could possibly do is a giant rooftop. Now, today if you do a giant rooftop, you wouldn't be able to connect it to the grid because it's so opposite of quick, easy, and cheap.

So one thing you'll be hearing a lot from MSEIA about is if we should harmonize the interconnection process with grid supply projects with the process for net metering. It should be just as quick, easy, and cheap to do grid supplies.

So if I have a 20-acre rooftop, I should be able to choose between a net metered connection and a grid supply connection with not very much difference in cost. Because supply -- if I'm on a roof, and I have a choice of connecting on the customer side of the meter or moving it 3 feet and going to the grid side of the meter, there shouldn't be an enormous difference in the process and difficulty and cost just because I moved it 3 feet. And this is a way to get the lowest cost, most efficient solar. That would apply to Community Solar as well.

Now, unfortunately, you guys can't waive a wand and make that happen because when you connect on the grid side of the meter, you're under PJM

jurisdiction, and that's federal, not under your control. But that's not entirely true because those larger costs, those great costs that are driven when you go through a PJM interconnection process, are largely driven by the local utility. Many of those costs are actually driven by the local utility.

So maybe there's a way for you to jump into that conversation and see if that process can get quicker, easier, and cheaper. And of course there's the bully pulpit of the governor to go to PJM and say, look, you guys, help us get to these great renewable energy goals that we've got, find a way to streamline this interconnection process.

Now, on a not-so-related note, going back to the conversations we've had with the value of solar, CCSA mentioned that five or six years ago New Jersey did a value of solar study. I believe the study that they're talking about was commissioned by MSEIA and it

was done by Clean Power Research.

Clean Power Research is the same outfit that did the Minnesota study that was mentioned just before. That is a wonderful study. It's called the Minnesota pathways -- solar pathways study. And it's not published yet, it will be published around the end of this month, and the results are fascinating. They said we can get to 100 percent wind and solar by 2050 at a cost of about 3-and-a-half cents per kilowatt hour. And it has more value on this conversation by how do we set the bill credit or what is the value of solar.

And, by the way, the result of our study was that Clean Power Research calculated a value of solar in New Jersey and Pennsylvania in different nodes, but the average value in total per energy plus attributes was 27 cents per kilowatt hour, and the attribute value alone was about 17 cents per kilowatt hour.

At the time Richard Perez from

SUNY Albany, who was a primary author of that report had a theory that we should pay for solar what the value is. Now, he no longer advocates for that. He's taking a least cost approach. Let's deliver it to ratepayers at the least possible cost, and that's what this pathways report is all about.

It's not only talking about the value, but it's also talking about what is the least cost way for us to get there, what are the technical regulatory and economic drivers that produce the least cost and what is that.

That would have a great value for this state because we have a high falutin goal, a wonderful, incredibly ambitious goal to get to 50 percent renewables by 2030 and now an executive order to get 100 percent by 2050. That's a laudable goal, but there's no plan on how to get there. And there's different pathways, there's different ways to get to that point, but one of them is going to be the least cost way.

And whatever way that one was, if we identify it, then we'll know if it's steps we need to take now to start on the right path, the more expensive path. So that's the value of doing a study like that. Thank you.

MR. SHEEHAN: Thank you. Anybody else who would like to talk on this topic?

(No response.)

With that mind, our next session is scheduled to start at 4:45. I think we will probably start that a little bit early. I think we should probably take a break on the last one. At least the crew up here has to be here until 6:00, so if we take a seven-minute break. We'll be back at 4:30.

(A recess was taken from 4:20 to 4:34 p.m.)

MR. SHEEHAN: Thank you, Ladies and Gentlemen. The good news is we are scheduled to go until 6:00 p.m. The better news is you all don't have to stay. We will open up with Session V,

take those comments from people who are here. We will then at that point probably pause the record and keep the record open until at least 5:45, based upon the notice.

If people come in later, they will get to put their comments on the record, but once we are done with this level of comments, we will close up and let you all leave.

With that in mind, this is Session V on customer subscriptions and customer protection.

As has been our tradition, we will start with people who have signed up ahead of time and then follow up with anyone who would like to discuss. As a favor to the court reporter, if everyone can slow down about 20 percent, that would probably be beneficial to her.

With that in mind, I would like us to start with Atlantic City Electric.

MR. SUNDERHAUF: Steve Sunderhauf with Atlantic City Electric. A couple comments related to

subscriptions and consumer protection. A minimum of two subscribers is required per legislation. We support that view, that's similar to what our other jurisdictions require.

Community Solar hosts should be responsible for managing customer subscriptions, and we don't see the utilities kind of stepping into that role. Customer subscribers must have an active case billing account. In the absence of an active account for a subscriber, they sign a share use that reverts to a Community Solar host. If somebody is participating that doesn't have an ACE account, I don't know whether you envision that's a possibility or not.

Community Solar must specify each customer percentage share of Community Solar production. Again, the totals obviously cannot be skewed 100 percent. If they do, that's obviously a math issue.

Any customer subscriber charged

must be provided at least 90 days in advance of the first applicable billing period upon adequate notification so we can adjust our billing system so that everyone gets the credit that they deserve or they expect to see.

If a subscription sells less than 100 percent of Community Solar production, the remaining percentage should be assigned to the Community Solar host.

And related to consumer protection, consumer protection should be consistent with rules applied to third-party suppliers, energy suppliers, when you think about it. So those suppliers -- those rules are fully vetted, and that should provide some level of guidance as to how we manage Community Solar on a subscription requirements.

So those are the comments I had.

MR. WINKA: Just a clarification, I think you said the minimum subscribers was two. There is

nothing in the statute that --

MR. SUNDERHAUF: I thought it had stated two.

MR. WINKA: There is nothing --

MR. SUNDERHAUF: So it's my interpretation of the statute. So I thought it had specified two, but two is what we envisioned. Thank you.

MR. SHEEHAN: Thank you very much.

Vote Solar?

MS. KASOTIA: Okay. So Vote Solar has learned from other communities on the market that program rules must specify how to achieve robust participation by diverse customer classes. As stated in Assembly Bill 3723, "The rules and regulations developed by the Board shall establish standards to ensure the ability of residential and commercial customers to participate in solar energy projects, including residential customers."

So in order to do that we already proposed a 15 percent program

carve out. We are also proposing that 50 percent of the program be a result for residential and small commercial customers. Again, I think it is important to make sure that the program creates those kinds of criteria to ensure that those customers are reached for participation.

We also recommend a minimum of three subscribers per project and a maximum subscription size of 40 percent per subscriber. These minimums and maximums are consistent with programmatic best practices across the country.

And we also think subscriptions should be sized to match average historical usage and they should be both transferrable and portable within individual utility service territories.

In terms of consumer protection it is important to ensure that there are appropriate consumer protection measures in the Community Solar program. We recommend looking at Maryland and

Minnesota as examples, as they both have been mentioned. Pretty straightforward consumer disclosure, checklists that clearly identify key terms associated with any subscription. This can be useful not just to get an idea of how they designed those checklists, but also how to educate and protect consumers that participate in New Jersey's solar program.

Some of the other speakers said that what BPU should explore is creating checklists against predatory and misleading sales tactics. And I think I mentioned this previously, utilizing multiple mediums to reach out to customers, both online and in print and in-person communication.

So those are the comments on consumer protection. Thank you.

MR. SHEEHAN: Thank you very much. Next will be UUFaithAction.

MS. HEMINGTON: My name is Carol Hemington. I'm representing Unitarian Universalist Faith Action, and we're

concerned with issues of equality and social justice and also the environment, so I'm going to address low-income, environmental justice, and providing enumerable energy to consumers.

In this topic attracting customer subscriptions and providing customer protection will be important issues for these communities and three important issues related to these questions: Portability, transferability, and consumer protection rules.

As far as portability, we believe that subscriptions should be portable as long as the subscriber remains in the original territory of the Community Solar organization.

We think this is important for these communities because members of the community tend to move, they're more likely to move, and if they can take the subscription with them, this would give the developer more stability in the membership, it would allow the

subscribers to continue their membership, there would be less administrative costs when the subscriber moves because you don't have to find new subscribers, and flexibility would be appropriate to a pilot program.

Transferability, we believe that they should be transferrable in as many situations as possible, that the rules should be flexible to promote assurance of consumers subscriptions to developers and to allow subscribers to recover costs and end their obligations as simply as possible.

Now, consumer protection, I have to get personal here. What is it about solar that lends itself to all these things that I keep getting in the mail and all these robo calls?

I've been in the environmental area my whole career I'm a bureaucrat. I've also been -- I'm used to dense language, I'm used to environmental stuff. I get things in the mail. I don't know who they're from. They kind

of look like they're official. It's none of you, I'm sure. One of them had a map of the state, so I'm like is this from the state? That would be good. But then I'm not sure, not from your utility, you have to do this and you have to do it by such and such a date, and I put it over there. I'd love to have solar, but it didn't make me confident in signing up with that.

The other end of the spectrum is I got a robo call yesterday from a solar company. I'm retired, so I had just awakened from a nap, and I said, oh, solar, it had a New Brunswick phono number on it. And I said, oh, they're calling me from -- where did they get my number.

So I said let me hear about this solar, so I said yes to something and I said yes to something. They said let me put you on hold and then somebody came on and said, I'm from such and such a company, thank you for your order, I'm here to qualify you. And I'm like, oh,

no, did I fall for one of those if you said yes they're going to record you.

But the bottom line is if this stuff is confusing me and I'm skeptical and I still haven't signed up for solar -- I'm sorry. It's very confusing.

So what occurs to me is you need to get customers, and if you don't get customers, it's not going to work at all especially if you put carve outs for LMI groups.

So what our organization advocates very strongly is things that have been said before, education in the community by people that these people in the community know and trust.

And we would recommend maybe a two-tiered approach. The first tier would be getting the local community groups that have been mentioned before involved and maybe do some training of them, and have some classes, some education of them. And then perhaps they can put forth panels, stakeholder

meetings, things in the community of the people that are known and trusted by the community.

And with all that you still need transparency, you'll need to protect consumers from misleading claims about the impact of subscribing. We'd like to see -- I think now if you subscribe to solar, you can find out what the difference would be between what you're going to be paying and what you pay now, the utility can provide that information. We'd like to see ways for them to compare those costs with their current bills.

We would like the BPU to review any marketing materials sent to subscribers, and we would -- we recommended in a different question that the projects be registered and the registrations be easy to verify. Because even when I went on the Internet, there's all these things, which ones are real and which ones of them aren't.

We would like to see on bill monthly charges for repayment of any initial loans and for use. I know that could be a problem, but it seems to us that would be the simplest way for people to understand what they are getting into.

We would like to see standardization, standard disclosure forms, we make some recommendations in our written comments on what we have included in the standard outline for a solar quote.

We'd also like to see assurances that developers will complete the project or return deposits. And we understand this requires an escrow account for this.

We'd like subscribers to be able to recover payments for the subscriptions if their circumstances change. And also other protections we'd like to see in the contract would be no yearly price installation beyond rate of inflation, no transfer fees if the

subscriber moves and transfers subscriptions.

That's all. Thank you.

MR. SHEEHAN: Thank you very much.

CCSA, Ben Downing.

MR. DOWNING: Thank you all very much for the opportunity. And thank you for your patience and perseverance here. So my name is Ben Downing. I work with a 10-year-old solar developer based in Boston, founded by two U.S. Army captains.

Nexamp is a full-service solar developer that specializes in community solar largely in the northeast, but also in Maryland, Illinois, and other states, and, as was referenced, we are a member of CCSA. We appreciate the opportunity to be part of the discussion today and my brief comments will focus on consumer protection and subscription management.

From CCSA's perspective and I can say that Nexamp shares this, consumer education, as was referenced by

previous speakers, is key when it comes to Community Solar even in the more advanced state markets, Massachusetts and Minnesota.

Community Solar is still very new, and to the extent that there will be a significant push, especially around residential and particularly around low-income and LMI participation, it is critically important that not only private developers, but non-profit organizations that have longstanding roots in the community, the public agencies are all working together to ensure that the communities that we all want to serve are able to make decisions about what projects best reflect their values in investigating our broadly shared goals.

I would say on this point I joined Nexamp about a year and a half ago, we were filling up one of our projects in western Massachusetts, where I grew up at the time, and I was asked to make a few calls to potential people

to fill up those final slots.

I thought the easiest sell in the world would be my mother, so I called my Mom. And after I went through the brief pitch around what signing up for the subscription would sound, like my mother simply said it sounds too good to be true.

After taking a brief moment, this was how I was going to pay for my home that I just secured a mortgage on, we ultimately were able to convince her that it's critically important.

I share that partially because it's funny, it points out how bad of a salesperson I am. But more importantly it points out the fact that there is still a great deal of upfront consumer education work that needs to be done. And we find that it's most successful not when it is done in a rushed, pushed fashion, but when there is a sustained and ongoing engagement in the community. As long-term owners of these projects, we see these not as a three-year program

but as a three-year investment, and we all need to operate as such.

On customer disclosure we think it is critically important that there is a uniform, simple description of the projects and the value proposition that they propose. Obviously, every company is going to have a different product, a different contract that underlies that customer disclosure, but if different community groups, if different individuals, if different families, businesses are thinking about different projects and where they want to subscribe, they should be able to compare those against one another, they should not have to have a 30-page document in one hand and a 30-page document in the other hand, and then work through it. They should have something simple up front that they could work through.

States have done this we'll move to that in the next slide, but certainly this is something that Maryland and New

York in particular have gotten right and we'll show that.

And, finally, we think it's important to provide innovation. We don't want to say that here are all of the things that have to be in a contract from the start and only have one value proposition for customers.

I think it's difficult, right, this is the balance between how do we allow different business practices to come forward, but at the same point continue to provide that protection and ensure that whatever choice a subscriber makes it is not one that he or she regrets in the long run.

We believe at CCSA all the leadership members, all the members believe this is critically important. If there is one bad community solar project, then it's a bad thing for every last one of us, and we want to hold ourselves to the highest standard possible.

This -- and it is obviously

incredibly small, but it is pretty impressive, right? This is the single sheet in Maryland that goes on top of your contract, so that is the disclosure form. You have the customer name, the term, whether or not there is any inflation, the estimated date of bill credits. Obviously, some of these things are beyond developer control, the yare beyond regulator control, but to the extent that it is possible, those simple upfront terms ought to be up front for customers to be able to make those decisions.

And I should say this is not where CCSA started, it is not where the regulators in Maryland started. It's not where anyone started. This reflects a long-sustained process to get to this point. But we think that's upfront work that was done that New Jersey can benefit from and what is a rapid roll-out here.

Finally, on customer subscriptions that was also a part of

this, we believe that there should be a minimum of three subscribers per project. For reference, that is the law of the land in Illinois, and they're a similarly situated program. We believe that there should be a maximum of 40 percent for any one subscriber. That is the case in Illinois.

So the baseline CS project in Illinois, if they were to do no residential participation, would at lease have to be 40, 40, and 20, but certainly there are incentives to do much more than within their REC program. Massachusetts has a maximum 50 percent, but then the rest is limited to small subscribers, residential and small business.

On size, we believe that there is an argument for having a subscription size up to 120 percent of load. That is reflecting the assumed electrification growth that we expect to see. While we hope that underlining load for customers is dropping through efficiency, if

customers are going to be bringing on electric vehicles, we don't want to lock them into an agreement that somehow doesn't reflect their future needs. Not a number that is locked down by any means, right, we want to be part of the discussion, but we want to reflect that people are going to be making different decisions around electrification in the future and we want the Community Solar systems to be a part of that.

And then, finally, on manage many, as has been referenced by several of the previous speakers, we believe the subscription to be both affordable and transferrable. We do not believe there should be incentive against transferring those credits, and that there ought to be, as I believe ACE referenced, others exclusively managed by developers.

So thank you all for the opportunity for CCSA to be a part of this process at multiple stages, and we hope to continue to be a part of the process and resource. And, again, we

just appreciate the opportunity.

MR. SHEEHAN: Would you be comfortable with us sharing your presentation here through the server? You don't have to answer me now.

MR. DOWNING: I'm looking at everyone. Yeah, we're cool.

MR. SHEEHAN: Okay. Thank you. We're going to share all the slides we received. We just wanted to make sure you guys were comfortable with that.

MR. DOWNING: Absolutely. Thank you very much.

MR. SHEEHAN: Thank you.

Pine Gate Renewables.

MR. McDONALD: So for this section I would just like to point out a few subsections of the market that I think may be, not necessarily marginalized, but just not thought of in this program.

One are larger scale subscribers, such as universities or multi-family buildings or apartment complexes being able to aggregate meters

so that a landlord could come in and say, okay, I'm going to be paying for all of your utilities, be able to aggregate all of those meters for all of the tenants in the building into a new solar program.

There should also be no maximum subscription size. Maximum subscription sizes could unfairly exclude certain community members such, as I said, universities or larger subscribers who want to aggregate meters.

There should be no limits placed on residential versus subscriber customers on a per-project basis because different organizations have different preferred subscriber strategies and structures based on their specific financing partners and the risks that they're willing to take on that aggregate credit. So, you know, not having these restrictions will allow the program to allow for unique project structures, which will be able to serve quite a range of customers.

Another thing that should be included in this program design is the allowance for community choice aggregation in these projects. I think that community choice aggregation could allow for a lot of the subscriber acquisition costs to be lessened if we can go to a municipality and sign up people in bulk that way instead of having to go individual to individual. It can provide much better benefits.

Any questions?

MR. WINKA: I'm not sure the statues for community aggregation would allow for that, so you'd probably have to tweak that statute. We can take a look at that.

MR. McDONALD: Okay. Great. Thank you.

MR. SHEEHAN: Okay. That concludes the individuals that have signed up ahead of time.

We have Justin Wilson.

(No response.)

Brandon Smithwood?

(No response.)

No wait, I read the form wrong. I apologize for that.

Lyle?

MR. RAWLINGS: No need.

MR. SHEEHAN: Excellent. Anyone who would like to step up to the mic?

(No response.)

Well, listen, Ladies and Gentlemen, thank you very much. We appreciate everyone coming out. We will keep the record open until 5:45 based upon the obligations of the notice. Unless anyone has a desperate desire to hear someone who might come in, you don't have to stay.

We want to thank you for the opportunity. This has been one of the stronger staples that we've had in a very long time. So I want to thank everyone for coming out and your thoughtful comments. We're looking forward to continuing this process with you. And thank you very much.

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(The proceedings adjourned at 5:45 p.m.)

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C E R T I F I C A T E

STATE OF NEW JERSEY)
) ss.
COUNTY OF BURLINGTON)

I, LAURA P. REAM, a Shorthand (Stenotype) Reporter and Notary Public of the State of New Jersey, do hereby certify that the foregoing hearing, taken at the time and place aforesaid, is a true and correct transcription of said deposition.

I further certify that I am neither counsel for nor related to any party to said action, nor in any way interested in the result of outcome thereof.

IN WITNESS WHEREOF, I have hereunto set my hand this 3rd day of August, 2018.

Laura Ream

LAURA P. REAM

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